

THIRTY-EIGHTH ANNUAL REPORT

OF THE

DEPARTMENT OF MARINE AND FISHERIES

1905

FISHERIES

PRINTED BY ORDER OF PARLIAMENT



OTTAWA

PRINTED BY S. E. DAWSON PRINTER TO THE KING'S MOST
EXCELLENT MAJESTY

1906

*To His Excellency the Right Honourable SIR ALBERT HENRY GEORGE, EARL GREY,
Viscount Howick, Baron Grey of Howick, a Baronet, G.C.M.G., &c., &c., &c.,
Governor General of Canada.*

MAY IT PLEASE YOUR EXCELLENCY :

I have the honour to submit herewith, for the information of Your Excellency and the legislature of Canada, the Thirty-eighth Annual Report of the Department of Marine and Fisheries, Fisheries Branch.

I have the honour to be,

Your Excellency's most obedient servant,

L. P. BRODEUR,

Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,

OTTAWA, February, 1906.

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REPORT OF THE DEPUTY MINISTER.

To the Honourable L. P. Brodeur,
Minister of Marine and Fisheries.

SIR,—I have the honour to present the thirty-eighth annual Fisheries Report of the Department of Marine and Fisheries for the fiscal year ending on June 30, last, and to give a statement of the more important details of the Fisheries Branch up to date.

This report contains statements of expenditure and revenue, of the Fishing Bounty transactions, Fisheries Protection Service, Fish Hatcheries, Oyster Culture on the Atlantic and Pacific coasts, Scottish herring curing work in Canada, Bait Freezers, Dogfish Reduction Works, Fish Drying Scheme, and the several reports of the District Fishery Inspectors in the different provinces. Appended to the report will be found, as usual, some special articles by Professor Edward E. Prince, Dominion Commissioner of Fisheries, upon 'The Whaling Industry and the Cetacea of Canada'; 'The Development of Fish Culture in the Dominion,' and a report by Mr. J. J. Cowie, in continuation of the special report last year on 'Scottish herring curing work on the Atlantic and Pacific coasts of Canada.'

The appendices referred to above, follow in order:—

1. Expenditure and Revenue.
2. Fishing Bounties.
3. Nova Scotia Fisheries.
4. New Brunswick Fisheries.
5. Prince Edward Island Fisheries.
6. Quebec Fisheries.
7. Ontario " "
8. Manitoba " "
9. North-west Territories Fisheries.
10. British Columbia Fisheries.
11. Fish Culture Operations, 1905.
12. Bait Cold Storage, 1905.
13. Fisheries Protection Service and Intelligence Bureau, 1905.
14. Fisheries Museum.
15. Fisheries outside staff.

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BRITISH COLUMBIA FISHERIES COMMISSION, 1905-6.

In compliance with an appeal from interested parties in British Columbia a fisheries commission was appointed to investigate and report upon the Pacific fisheries including the consideration of matters involved in questions about which the State of Washington had already been taking steps. Measures with a view to the appointment of special commissioners were taken and as His Honour Governor Albert E. Mead, the Governor of Washington State expressed his willingness on June 13, 1905, to co-operate with the Dominion Government in order that mutual conferences might be arranged between Canadian and State of Washington representatives, the Dominion Commission was authorized to hold such conferences on both sides of the International boundary line. On June 24, Governor Mead communicated the names of six gentlemen representative of the fishing industries especially in Puget-Sound, and at a later date a seventh name was added. The State Commission, as finally authorized, consisted of Mr. T. J. Gorman, Seattle, chairman; Messrs. J. A. Kerr, Seattle; E. B. Deming, Bellingham; A. H. Woolard, Anacortes; E. E. Ainsworth, Seattle; Frank Wright, Bellingham Beach, and T. R. Kershaw, State Fish Commissioner. The Canadian commissioners appointed by order in Council, approved by His Excellency the Governor General on July 22, 1905, were:—Professor Edward E. Prince, Dominion Commissioner of Fisheries, chairman; Messrs. Campbell Sweeny, Vancouver; John C. Brown, New Westminster; Richard Hall, M.P.P., Victoria; Rev. George W. Taylor, Wellington, Nanaimo; and John P. Babcock, Provincial Fishery Commissioner, Victoria. Mr. J. Charles McIntosh, barrister, Victoria, was appointed secretary of the commission, and Mr. Q. D. H. Warden, official stenographer.

On September 19 the commissioners were called together in Victoria, and continued in session for two days arranging the programme of work, dates of the series of sittings, mutual conference with the State of Washington representatives, and certain special inquiries *re* the herring industry at Nanaimo, and the limits of fishing operations for salmon on the Fraser River. The commission adjourned to resume its work at 10 a.m. in Victoria on November 7, and on that date commenced two days' sessions in going over the various points to be given chief attention at the public sitting to commence a week later. The Washington State Commission had communicated their desire to hold a mutual conference with the Canadian Commission in Seattle on November 9 and 10, and the sub-committees, viz., Mr. J. C. Brown and the Secretary, and the Rev. G. W. Taylor gave in their reports, the former placing before the commission the results of an inquiry on the Fraser river, especially above Westminster bridge, and the last named commissioner presenting a report on certain aspects of the herring industry. The commissioners crossed from Victoria to Seattle and sat in private session with the Washington State representatives in the great reception room, Butler House. A most valuable and lengthy discussion took place at the two days' conference over which by the unanimous vote of both commissions, Professor Prince, Dominion Commissioner, was elected chairman. Such progress was made that the United States representatives expressed their desire to hold a further conference in British Columbia in the new year. It may be added that the Canadian commissioners were received with great kindness by the Washington State commissioners, and characteristic hospitality signalized the visit to the city of Seattle.

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The opening public sessions of the commission were held in the centre of the Fraser river fishing industry, viz., New Westminster, on November 14 and 15. By kind invitation of His Worship the Mayor (Mr. W. H. Keary) and city council, the sittings took place in the spacious city council chambers, and owing to the very large and representative attendance of fishermen, cannerymen and the public, the accommodation was taxed to its utmost, and great interest was evinced in the proceedings. The further sittings continued as follows: November 16 and 17, Board of Trade Rooms, Vancouver; 21st and 22nd, Board of Trade Rooms, Victoria; 23rd and 24th, Court House, Nanaimo; 27th, Provincial Agent's Offices, Duncan, Cowichan River; December 6, Council Chambers, New Westminster.

In addition to these eleven public sittings, which were in many cases very lengthy, and elicited most valuable detailed evidence from the leading fishermen, cannerymen and representative men, there were held a number of private executive meetings, viz., on November 7 and 8 at the Driard Hotel, Victoria; November 18, Vancouver Hotel, Vancouver, and December 8, at the same place, when certain departmental officials gave important evidence to the commission and a full discussion of salient points took place resulting in the drawing up of certain interim recommendations which were duly forwarded to Ottawa. The commission adjourned on December 8, to meet again in 1906, on such dates as might be mutually convenient for the Washington State Commissioners and the British Columbia Fisheries Commission.

A large body of evidence was taken verbatim and copies of this and of much documentary information, statistics, petitions, &c., have been transcribed and placed in convenient form for the consideration of the commissioners preparatory to their further sittings during the spring and summer of 1906.

GEORGIAN BAY FISHERY COMMISSION.

This commission, consisting of three members, viz., Mr. John Birnie, B.C.L., LL.B., K.C., of Collingwood; Mr. James J. Noble, of Little Current, and the Dominion Commissioner of Fisheries (Professor E. E. Prince) held an executive meeting at Parry Sound, Ont., on September 8 and 9, when the arrangements for holding sittings, taking evidence, visiting the fishing areas, &c., were discussed and decided upon. Mr. Noble unfortunately was not able to attend these initial meetings, but was present at all the public sittings of the commission and took an active part in all its work.

The opening meeting of the series of public sessions was held in the Council Chamber, Owen Sound, on Friday, September 14, when Mr. Birnie presided in the absence of Professor Prince, who was detained on the Pacific coast. A large amount of evidence was given before the commission by representative fishermen, fish-merchants, fish-buyers and others interested, and the various matters in controversy, viz., gill-nets vs. pound-nets, the use of trap-nets, close seasons, size limits, fish hatcheries and similar matter were prominently brought up. From Owen Sound the commissioners went to Wiarton and sat on September 19 and 20; Meaford, September 25; Thornbury, September 27; Midland, October 2 and 3; Collingwood, September 29,

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30 and October 4, 5 and 6; Killarney, October 11 and 12; and Little Current, October 19, after which the commission adjourned to meet at an early date in 1906. The chairman of the commission joined in the work at Killarney, and interesting visits to pound-nets, various fishing grounds, the fish freezers, &c., were made and the fishermen and merchants exhibited the utmost readiness to aid the commissioners in obtaining all possible information, and, as far as possible seeing practically the fishing operations, the character of the waters, and the modes of handling the catches of fish. So strong a feeling has found expression that the commission should include other places west of Little Current, as far as Sault Ste. Marie, at least, that further sittings will be necessary during the fishing season of 1906. It is probable that the commissioners may meet in Ottawa early in the new year to review the mass of evidence, now in the hands of each commissioner, and if feasible to prepare an interim report on some of the more urgent matters brought forward at the public sittings.

MARINE BIOLOGICAL STATION OF CANADA.

At the annual meeting, in Ottawa, of the Board of Management, held on January 7, 1905, in the office of the Dominion Commissioner of Fisheries, it was decided that the location of the biological station should be changed from Malpeque, Richmond Bay, P.E.I., to Gaspé, in the province of Quebec.

This adherence to the rule, adopted in the first year of the operation of the station at St. Andrews, New Brunswick, in 1899, that a period of two years should be spent at each location, has proved highly advantageous. It has enabled the staff of the station to become practically acquainted with the fishery conditions in each district visited, and has resulted in the accumulation of a vast mass of valuable information and material, which will take time to work up into appropriate form for presentation to the public. When it is remembered that the splendidly equipped fish commission of the United States, with its large staff of workers, takes frequently three or four years to put some of its most important investigations into shape, so that the fishery researches completed in 1887, for instance, were not presented to the public in printed form until 1891, it is highly creditable that the smaller and less adequately equipped biological laboratory on the Atlantic coast of the Dominion should, in 1901, have issued a publication* including seven scientific fishery reports embracing work done in 1899 and 1900; while there is now in the press, to be issued shortly, under the title, 'Further contributions to Canadian Biology,' a supplement to the Department's fishery report, 1905, consisting of twelve valuable papers with eight illustrative plates. The issue of these two reports, covering a number of the most momentous questions affecting the fisheries of the country, marks an area in the investigation of the inshore and offshore waters of our Atlantic coast. Commencing in New Brunswick, the station was moved later to Canso, Nova Scotia, later still to Malpeque, P.E.I. Two years have thus been spent in the study of the marine resources of each of the three maritime provinces, and last year and this year, 1906, the staff are at work in Gaspé basin, where the laboratory is located, in an excellent position near the town of Gaspé.

* Supplement to 32nd Ann. Report of Mar. and Fish. Dept., 1901.

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Each of the four locations which the station has visited are notable as centres of fishing industries of a special nature, St. Andrew's being a centre of the so-called sardine fishery, while clams, lobsters, &c., and to some extent deep sea fisheries are pursued, while Canso is in some respects one of the most important and enterprising fishing towns in the Maritime Provinces to which the 'bankers' resort, owing to its safe and spacious harbour, and ample supplies of bait, chiefly herring and squid, while inshore fishing operations are extensive, and embrace cod, haddock, halibut, mackerel, salmon, pollock, hake, herring, alewives, turbot, lobsters, swordfish, eels, &c. A lobster hatchery, curing sheds, large fish freezers, dog-fish reduction works are amongst the establishments at Canso; though the great cable stations at Hazel Hill and in Canso itself are of world-wide importance.

Malpeque, Richmond bay, the third site where the station was placed, is one of the most famous of oyster fishing centres in Canada; but other fisheries, cod, haddock, lobsters, &c., are carried on. Of the present location little need be said, as Gaspé is one of the historic centres of Canadian deep-sea and inshore fisheries, besides being adjacent to noted salmon and trout rivers, well-known in the annals of sport.

The director of the station (Professor Prince) was so occupied with the work of the British Columbia Fisheries Commission, of which he is chairman, that he was not able to perform any duties at Gaspé. Professor E. W. MacBride, of McGill University, Montreal, it was anticipated would fulfil the duties as acting director, in the absence of Professor Ramsay Wright, of Toronto, who was away in Greece attending the Hellenic Congress at Athens, but Professor MacBride's visit to Europe was more prolonged than expected, and the charge of the season's investigations was undertaken by Dr. Joseph Stafford, lecturer on zoology, McGill University. The staff at Gaspé, in addition to Dr. Stafford, included Professor James Fowler, LL.D., F.R.S.C., Queen's University, Kingston; Mr. J. C. Simpson, B.A., McGill University; Dr. Etherington, Queen's University, Kingston; A. Bruce Macallum, Toronto University; J. McIntosh, B.A., Toronto University, and others. Dr. Stafford continued his highly valuable and original researches on the breeding and life-history of bivalve mollusks, including the oyster experiments with which were carried on for two years at Malpeque; and he extended his faunistic survey of the coast at Gaspé. Mr. Simpson was occupied with protozoan investigations, these minute and lowly animals forming a large part of the food upon which very young fishes feed. Crustacean and hydroid studies, and a botanical survey of the locality occupied other members of the staff. Hence Dr. Stafford was able to report at the close of the first season that he had had 'a very good year on the whole, and knew the ground well for next season's work.' On August 29, the Hon. the late minister, accompanied by the deputy minister, and Dr. Wm. Wakeham, visited the station, and made note of its equipment and the work being carried on. Further necessary additions have been made to the library, which still has many *lacunæ*, to be filled especially with works of a faunistic nature. It is expected that next season a mass of interesting facts respecting the habits of the whales, their breeding resorts, and seasonal migrations, may be gathered at the whaling stations licensed by the government in the Gulf of St. Lawrence, and now operating for the first year. It was intended to carry out in the station some experiments

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with a new method of preserving fish in a fresh condition by Sahlström's vacuum method. Mr. C. Sahlström explained to the Director of the Station the nature of the apparatus, though some of the details have not yet been made public. The Hon. the late Minister evinced great interest in this novel method, which it is claimed will maintain freshly-caught fish in a sweet, unchanged condition for long periods of time. Owing to circumstances, and the necessity for hastening the experiment, the apparatus was not erected in the station at Gaspé, but in some fish-houses at Halifax, N.S.

Samples of the fish preserved by Mr. Sahlström and kept for many weeks, were submitted to the director of the station, who pronounced them wonderfully well preserved. The samples included cod and haddock, and while certain features in the external appearance of the fish could be improved, the firm texture of the flesh and its sweet undeteriorated character witnessed to the success of the experiment carried out under the department's auspices. Samples of fresh mackerel are being preserved, and will be submitted as a final test.

The proposal to plan out and arrange for systematic fishery investigations on the Pacific coast was referred to the Biological Board by the British Columbia Fisheries Commission at its executive sittings in Vancouver, B.C., on December 9 and 10 last, and the board has decided to undertake such work, and trusts with an increased annual appropriation to organize a comprehensive survey of the Pacific fishery resources of Canada.

A distinguished zoologist, Rev. G. W. Taylor, has under the commission's auspices commenced the work, which it is proposed shall be continued and extended under the supervision of the Marine Biological Board.

GEORGIAN BAY BIOLOGICAL STATION.

This valuable station designed to carry on fisheries and aquatic investigations on the great lakes, has completed another successful season. It is no longer under the control of an independent board such as managed it since it commenced work in the year 1901, but has been transferred to the central biological board under whose direct supervision it now conducts its operations in the same manner as the Marine Biological Station on the Atlantic coast. The work for the season began on June 5, when Dr. B. Arthur Bensley, of Toronto University, continued the important researches of the previous year and inaugurated some new lines of research bearing directly on the fishing industries. A staff of four able workers occupied tables in the station and made exploratory excursions in the adjacent waters. They included Dr. Bensley, Mr. A. G. Huustman, B.A., Mr. I. R. Bell, and Mr. J. R. G. Murray. It was expected that a number of science teachers from various high schools would attend the laboratory during the summer vacation, but an accident to the building occupied by the staff near the station was severely damaged by a wind storm in July. It contained eleven rooms, adequate for a full staff of workers, teachers and students, but it was repaired only to meet immediate needs, and will require some rebuilding before it can be used next session. A verandah is necessary to act as a shield during the very

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hot weather, and it will improve the appearance of the building after the repairs are completed. A new system of hatching black bass eggs in shallow pans, through which a water-supply circulates has been tried with success. The eggs are preserved from enemies and all unfavourable conditions, but owing to lack of a proper inclosure, in which to keep the parent fish until quite ready for stripping, and further, the difficulty of obtaining sufficient supplies of ova prevented the experiment from being carried out on an extended scale.

Other lines of work were carried out, viz.:—

- (1) Faunistic work in the neighbouring waters.
- (2) The analysis and determination of the representative forms of the plankton.
- (3) Visits with the lake fishermen to their fishing grounds and measurement of the whitefish captured in gill-nets, &c.
- (4) Examination of fishes' stomachs for food estimation.
- (5) Collection of parasites from fishes obtained in the deeper waters of the lake.

The large collection of specimens made in preceding seasons was added to considerably. The absolute necessity of an adequate wharf costing only a small amount, has been apparent, and one should be built without delay. The sub-committee appointed by the Biological Board at their last meeting propose to visit the station at an early date during the next season, and the important fisheries commission, which has held sessions all along the shores of these waters, Lake Huron, Georgian Bay and the North Channel, will probably include a visit to the laboratory as part of their programme during 1906. It is expected that the commission will receive valuable aid and much accurate information from the work of the staff at the station.

BAIT FREEZERS.

The policy was adopted by the department seven years ago, when the suggestion made by the Lobster Commission, 1898, in their report and recommendations was carried into effect, and a parliamentary appropriation of \$25,000 secured to enable local bait associations to be organized at various points along the Atlantic coast, and to aid in the construction of refrigerators of from 10 tons to 50 tons capacity, under the combined auspices of the Dominion Government and the local fishermen's bait associations. But as was pointed out in the special report of the Commissioner of Fisheries on 'The Bait Freezer System in Canada,' published in the department's fisheries report, 1902, the original intention was to store bait in small quantities adequate for limited local needs, and the various provincial Acts sanctioning the incorporation of fishermen's bait associations specifically state that such associations are for the express purpose of preserving, buying, selling and trading in bait, for fishery purposes. 'As to the future progress of the scheme,' the special report went on to say* 'while it will of necessity involve the continued erection of small freezers

* Rep. Dep. Mar. and Fisheries (Fisheries) 1902 p. lix.

suited to the needs of limited fishing localities, under the auspices of the local bait associations, the system can hardly end there. Within these limitations no doubt the local demands for bait on the part of the inshore fishermen can be met, but it appears inevitable that freezers of larger capacity at central fishing ports will require to be included. The claims of the deep-sea fishermen, the 'bankers' cannot be ignored The erection of capacious freezers, holding several hundreds of tons of bait, would provide full and reliable supplies for that special demand.' Hence, as stated in last year's report (p. xvii.), the first steps had been taken to build a large freezer at Canso, N.S., being one of the principal centres resorted to by the banking fleet. It is a three story brick building fitted with the most modern refrigerating machinery and pronounced by experts to be equal to the best in every particular. It has a freezing capacity of a thousand barrels per day and does its work with ease.

The building, which is 125 feet in length, 46 feet wide, and three stories high, with an engine room and boiler house extension 125 feet by 31½ feet, is built of brick with pitch and gravel roof. The machinery was furnished by the York Manufacturing Company, of York, Pa. Cold is produced by the compression and expansion of ammonia gas, the compression of the gas being done by a pair of duplicate compressors of ninety tons refrigerating capacity, actuated by a 120 horse power cross-compound Corliss engine and the steam is supplied by a 130 horse power Robb-Mumford boiler, with another of smaller capacity. The freezing and storage rooms have about eight or nine miles of 1½-inch brine pipe, two of the sharp freezers having about two miles each. The old style cold storage plant had its brine made from common salt, which would freeze at about zero, and was very objectionable because it rusts iron so quickly. The Canso Cold Storage Company, being strictly up-to-date, employs chloride of calcium brine, which freezes at 54 degrees below and does not eat or rust the pipes, by which it is conveyed. It is neutral to all iron work. Its superiority to the ordinary 'pickle' can be easily understood.

The rooms are cooled by the circulation of the cold brine by a pump through the coils of pipe by which they are surrounded. The brine is cooled in the double pipe brine cooler by the cold ammonia, the ammonia is cooled by being compressed to a pressure of about 200 pounds to the square inch, which raises its temperature 'away up,' and while compressed it is passed through a big double pipe ammonia condenser coil, having ammonia on the outside pipe, and cold sea water in the inner one, circulated by means of a pump, the sea water, after having done its work, carrying the heat from the ammonia, which means the heat from the rooms, out to the sea. Three endless chain conveyors, brine, ammonia and sea water, each picks up its load of heat in its turn and transfers it to the other till it finds its way to the sea.

There are three essentials to a successful ammonia plant, good compression capacity, good and plenty of cooling water, and good insulation, to which might be added a fourth, plenty of pipe in the rooms. The Canso Cold Storage Company's plant has all these, and the result is something unique in cold storage plants.

The insulation seems to be well nigh perfect. Six thicknesses of matched spruce boards, nine thicknesses of heavy insulating paper, a two-inch air space, and six inches of eel grass surround all the rooms, while the first floor has between its 12

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inch joists 25 tons of eel grass, and the second floor about 20 tons. About 60 tons of washed and dried eel grass were used in the insulation, and while the employment of it was somewhat of an experiment, its value as an insulator has been fully proved. Its non-inflammable qualities add to its value for the purpose.

With regard to the temperature it may be enough to say that it is no trouble to get 13 below zero, running but 7 or 8 hours out of the 24, or to have zero temperature in the room after the machinery has been shut down for 16 hours. There are not many cold storage plants that can show such a record.

A 50-horse power Robb-Armstrong engine and 35 kilowatt dynamo, with a capacity of 600 16-candle power lamps, lights the whole premises, fish stores and shop.

On September 22 the establishment was ready for operation, and the chemical fluid, of the nature of brine, was sent circulating through the eight miles of tubing, which forms the essential feature in the apparatus for producing the necessary low temperature. The equipment is a 90-ton ammonia compression outfit, and has been pronounced on competent authority to be the most effective in the world for achieving excellent results. With one-third of the ammonia condenser cut off and the engine running at half speed, a temperature of 15° degrees below zero Fahrenheit is easily reached. The principal insulating material used is eel-grass, a plant growing most abundantly below low-water mark in the vicinity of Canso. Its two qualities, inflammability and perfect insulating power, render it superior to any other material. Since the freezer was regularly operated (about the end of September, over 500,000 lbs. of squid, and more than 5,000 lbs. of herring have been stored, and of this frozen bait there has been sold to the fishermen 197,154 lbs. of squid, and 1,505 lbs. of herring. There remained in hand ready for fishermen's needs 300,000 lbs. of squid and 2,000 lbs. of herring, of which has been bespoken more than half for spring delivery to the banking vessels, and the balance will be sold within the first six or eight weeks of the new year. The very detailed rules and conditions formulated by the department are being observed by the Canso Cold Storage Company, upon which the Commissioner of Fisheries sits as the representative of the department. A second large bait freezer was urged very influentially upon the department, and Halifax, it was pointed out, was a suitable and central location. On September 21 an agreement was entered into whereby the Halifax Cold Storage Company with the aid of the Dominion Government should, as at Canso, erect a capacious cold storage establishment for supplying bait to bank fishermen at the current market rates and shall supply the inshore boat fishermen with such small quantities of bait as may be desired at the same rate as that charged to the bank fishermen for larger quantities. The amount guaranteed on behalf of the government was not to exceed thirty thousand dollars, with a bonus of four dollars per ton up to a maximum of 500 tons of bait, frozen and sold to the fisherman during each year of the first three years of the operation of the freezer. The system adopted at Halifax is the Linde British Refrigerator method, and the buildings include a machinery room 56 feet x 29 feet, of two stories and a basement; the storage building is 63 feet x 29 feet, three stories, and the receiving building is 50 feet x 23 feet wide, and of three stories height and is of wood. The dockage accommodation is ample, the wharf extending 400 feet out from Water street and can

load or discharge five or six fishing schooners at the same time. The freezer is designed to take 40 tons of fresh bait daily, and to have storage capacity of 1,200 tons. With the splendidly equipped and spacious large freezer at Canso, N.S., one of the principal centres resorted to by the fishing fleets operating in the Gulf of St. Lawrence and the Atlantic banks and the new large freezer so conveniently located in the famous harbour of Halifax the deep sea fishermen now possess immense advantages.

The system of small bait-freezers continues to grow and eight new establishments have been completed during the past year or are in process of construction. Three of these are in the province of Quebec (at Anse à la Barbe, Paspebiac and Etang du Nord), while five of them are in Nova Scotia (at Lockeport, Louisburg, Drum Head, Quoddy, and Big Island).

In addition, Arisaig, N.S., South Bay, Ingonish, C.B., (by private enterprise), Maria Capes, St. Godfroy, P.Q., and Cabin Cove, Magdalene Islands, as well as Digby, Lurenburg, in Nova Scotia, and Anse aux Gascons, and Newport, P.Q., Caraquet, Lower Caraquet and Shippegan, N.B., are to have small bait freezers, and the preliminary steps have been taken and in some cases the erection of the buildings has been advanced.

Of the twenty-nine refrigerators erected from 1900 to 1904, the report (Appendix No. 12) of Mr. Peter Macfarlane, Departmental officer in charge furnishes details in each case, and indicates that owing to local circumstances the results accomplished have varied in the extreme, some like Bayfield, N.S., Miminegash, P.E.I., and others being filled to their utmost capacity, and proving of inestimable benefit to the fishermen in the vicinity, while others were only partially filled, and others again failed to place any bait in the freezers.

No doubt a prevalent feeling that frozen fresh bait is inferior to fresh bait just caught has deterred many fishermen from enthusiastically aiding in the operation of local freezers erected by government aid; but the value and utility of such refrigerator bait has been abundantly proven. 'This year,' reports one bait association secretary, 'the frozen bait was a great source of benefit to the lobster fishermen, as the lobsters seem to trap better on fresh bait than on the salted article. As there was no live bait to be had after June 15, we cleaned out our freezer and had not a pound left'; while another secretary writes: 'Our freezer keeps our fish fine, and the fishermen say that when the herring are put in fresh and frozen well it is just as good as fresh bait'; while again, another secretary reports: 'The fishermen have been doubtful as to the value of frozen bait; but are beginning to see for themselves the value of the freezer, which supplies them with bait, where there is no other way of getting it. . . . It is frankly conceded by most of the fishermen that their boats would have been idle much of the time in June, July and August, but for the frozen bait, and they admit, too, that the presence of the freezer has given them better wages and has put them in a better condition for the autumn fishing than they have been before.'

It is clear that a scheme such as the government-aided bait-freezer scheme will take many seasons to so develop as to be a general success—all along the sea shore, Doubt as to the utility of the bait from the freezers, errors in management, mistakes

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in attending to details of working, and especially lack of interest on the part of some of the local fishermen, who are prepared to benefit by the labour and enthusiasm of their more thoughtful brethren, fully account for the very varied results detailed in Mr. Macfarlane's report; but the ultimate success of the scheme is unquestionable.

CANADIAN WHALING.

The revival of the valuable whaling industry, which was at one time actively pursued from Gaspé, and many centres in the estuary of the St. Lawrence, is a feature of great moment in the maritime industries of the Dominion. As the more valuable kinds of whales were reduced in numbers in the Gulf, the industry fifty years ago declined, and the pursuit of the valuable cetaceans was left to Scottish, Norwegian and United States whalers, who carried on hazardous but remunerative whaling in Hudson bay and the Canadian waters of the Arctic circle.

Four new features in the industry have brought about a revolution, viz.:—

- (1) The use of explosive bomb-harpoons.
- (2) The inflation of the carcass of the whale by machinery.
- (3) The use of machinery in handling the captured whales at fixed whaling factories.
- (4) The utilization of other products than whalebone and blubber—by conversion into guano, leather, glue, canned meat, &c.

These four important features have led to the capture of rorquals, humpbacks, blackfish and other so-called inferior kinds, which were neglected by whalers in former years, because they were more dangerous and powerful than the valued 'right-whales,' and the blubber and whalebone were less in quantity and wholly inferior in value.

The following protective and regulative provisions were made law in August last, and constitute the Act to amend the Fisheries Act, being 4 Edward VII., chapter 13, and designed to protect the industry as a permanent one.

1. 'No one shall, at any time, engage in the manufacture from whales of oil or other commercial product, and no vessel or boat shall be employed in the whale fishery, except under license from the Minister of Marine and Fisheries, under a penalty not exceeding five hundred dollars and not less than three hundred dollars.

'2. The Minister of Marine and Fisheries may issue licenses under this section, under the following conditions:—

'(a.) No license shall be issued until the site of the factory has been approved by the Minister of Marine and Fisheries, and no site shall be approved within fifty miles of any other whale factory, or in such proximity to any inhabited place or places as, in the opinion of the Minister of Marine and Fisheries, may cause any danger or detriment to the public health;

'(b.) No license shall be issued until the applicant therefor has given assurances to the Minister of Marine and Fisheries, of a satisfactory nature, that he (the applicant) is in a position to convert any whale captured into commercial products within twenty-four hours of the landing of such whale, and that he is also in a posi-

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tion to conduct his whale factory and business in such a manner that no noxious or deleterious matter will be introduced into any public waters, bays, creeks, rivers or harbours;

‘(c.) No license shall be issued until the applicant has filed with the Minister of Marine and Fisheries plans and specifications of the machinery to be contained in the proposed factory, and particulars of the reduction process; and the machinery proposed to be used shall be of a kind already proved efficient for such purposes, and of the most approved type theretofore used in the whaling industry.

‘3. No license shall be for a period exceeding nine years: Provided always that the Governor in Council may renew a license in favour of the licensee from time to time for periods of nine years, upon receipt of an application, in writing, for a renewal, six months previously to the termination of the current period.

‘4. The holder of any such license shall not operate more than one whaling steamer in connection with the whale factory under license.

‘5. The license shall become void and forfeited unless the factory named therein is erected, equipped and working within two years from the date of the issue of the license.

‘6. The fee charged on each such license shall be eight hundred dollars for the first year, one thousand dollars for the second year, and twelve hundred dollars for the third and each ensuing year, and the fee on all subsequent licenses for the same factory shall be twelve hundred dollars; such fee shall be payable to the Minister of Marine and Fisheries, first on the issue of the license, and on the first day of July in each year thereafter: Provided that the Governor in Council, after the first two years, may exact, in lieu of such fee, a sum equal to two per cent of the gross earnings of each factory, which shall be payable as aforesaid.

‘7. Every license, upon cause shown, after one month's notice in writing to the licensee, shall be liable to forfeiture for any infraction of this section, or any regulation under it, or for failure to fulfil and carry out the assurances required under paragraph (b) of subsection 2 of this section; and in the case of forfeiture, the Minister of Marine and Fisheries may, without any suit or other proceedings at law, and without compensation, cancel the license.

‘8. The Governor in Council may, from time to time, make such regulations as to him seem necessary for carrying out and enforcing any of the provisions of this section, and for controlling and regulating the manufactures carried on in the licensed factories, and the disposal of all refuse therefrom.

‘9. Boats known as “tow-boats” shall not be used by any one in the prosecution of the whaling industry, and no vessel other than the vessel from which the whales have been captured or killed, shall, by any method or contrivance, bring or tow into port any whale for manufacture or other purpose; but nothing in this section shall prevent any one, other than the holder of a license, or his employees, from towing any dead whale to land, and having it manufactured or otherwise disposing of it in accordance with the provisions of this section.

‘10. No one shall pursue, capture, shoot or kill any whale within the distance of one-half nautical mile of any vessel, or boat not at anchor or engaged in any kind of fishing, or within one nautical mile of any vessel or boat at anchor or engaged in any kind of fishing.

‘11. No one shall have in his possession, or use in the catching or killing of whales, any contrivance which does not include a harpoon, with a whaling line attached thereto, fixed or fastened to the boat or vessel from which the whale is captured or killed.

‘12. Every one who violates any provision of this section, or of the regulations made hereunder, for which violation no penalty is herein specially provided, shall be liable to a fine not exceeding two hundred dollars, and not less than fifty dollars.

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'13. All machinery and apparatus, and all vessels and boats, and their tackle, apparel and furniture, used in violation of this section, or of any regulation made hereunder, shall be confiscated to His Majesty.'

DOG-FISH REDUCTION WORKS.

Reference was made in last year's report to the initial dog-fish reduction works which were being erected at Canso, N.S., and to two other similar establishments projected at Shippegan, N.B., and at Clark's Harbour, N.S. Two of these reduction works have been in full operation this season. The plant manufactured by the American Process Company and installed in these two government-operated works is of the most recent and effective type. The plant, which consists of crushers, pressers, digesters and cookers and oil extractors and driers, turns out a coarse fertilizer material known as 'fish scrap,' which by a further process can be converted into guano. The revolving horizontal cylinders which are a main feature in the plant, are of various capacities, but it was decided that a capacity of 5 to 10 tons per day of dog-fish raw material would be ample as an experiment. The object being to create an incentive to the destruction by the fishermen of these pests of the fishing grounds, their utilization as oil and fertilizer material appeared to provide the necessary incentive if it could be made a commercial success. Nearly 200 tons of fertilizer scrap were produced, and about 8,500 gallons of dog-fish oil, both of which are in demand.

The dog-fish are a great drawback to the fishermen, as they are exceedingly plentiful at times, and not only are caught by the baited hook intended for the cod or other marketable fish, but also drive the cod and other fish away from their regular grounds.

Instead of being a source of total loss to the fishermen, the reduction works turn these hitherto useless fish into materials for which there is a great demand, and the fishermen find it quite profitable to catch the dog-fish to supply the reduction plant, and great quantities are gathered up by the little steamers that regularly visit the different points. Two schooner loads, consisting of many thousands of these fish were landed on certain days in September daily, taxing the plant to its utmost capacity. Some thousands of tons of dog-fish and other fish waste have been converted into oil and fertilizer, and what had hitherto been a nuisance and injury to the fishermen has become a source of considerable profit. From Port Hood and other points in Cape Breton on the east to Isaac's Harbour at Beckerton on the west, vessels, boats and steamers have brought in this hitherto valueless material to be turned into valuable profit. The benefits of the industry have been limited only by the capacity of the plant. Working night and day, Manager Cox was not able to care for more than half of the material that was offered him. A large part of this initial year was spent in testing various methods of treatment until now a fertilizer, rich in ammonia, and a very fair oil are produced.

The plant consists of a building about 150 feet by 30 feet, with boiler house attachment, and a substantial wharf, situated on an island, and for some months now it has been one of the busiest places on the harbour front of the town of Canso.

At Shippegan the dog-fish reduction works were later in being commenced, but at the urgent suggestion of Mr. Turgeon, M.P., a trip was made by Mr. P. Morais to Canso in order that he might become fully acquainted with the *modus operandi* carried out at Canso and qualify himself for the management of the reduction works in Gloucester County, N.B.

When the Shippegan works were completed, the main runs of dog-fish were over for the season, and a fair test of the probabilities of the institution cannot be made until next season. When, however, the machinery had all been fitted up in the fine new buildings conveniently situated near Shippegan Gully, and ready for operation on October 6, the quantity of dog-fish brought in by the fishermen exceeded all expectations. The plant was kept going with a full supply of dog-fish when the operations began on October 9, and the guano and dog-fish oil products yielded by these pests of the sea are in demand, and will act as a stimulus to increased efforts on the part of the fisherman to wage war upon dog-fish in future seasons. Nearly 4,000 lbs. of fertilizer was produced and about 30 gallons of oil.

DOG-FISH AS FOOD.

The department carried out an experiment in the preparation of canned dog-fish as a food product, and certain lobster canners in the Maritime Provinces volunteered, with the aid of a bonus of \$3.50 a case, to put up sample packs (a total of 250 cases) of canned dog-fish. This food product has been pronounced palatable by experienced men, and if the arrangements in progress result satisfactorily the placing of these sample cases on the market may lead to a large demand, and give another inducement to fishermen to capture these destructive fish. While there exists some uncertainty in the public mind as to the qualities of canned dog-fish as a food, and in many quarters there is a serious prejudice against its use, the samples tested in the department demonstrated that it is not inferior in flavour, texture or whiteness, to many canned fish at present in demand in the principal markets. Indeed, as the Commissioner of Fisheries pointed out, in his special report in 1903, on the dog-fish in Canada (p. xlix.):—‘There is little doubt that if the flesh be entirely removed from the skin with such scrupulous care that it is not in any way tainted with the offensive odour referred to, it is after salting quite an agreeable edible material, and no doubt could be cooked and put up in palatable form, either canned or ground up as a fish-flour. In Nova Scotia, and especially on the Cape Breton shore, said Dr. M. H. Perley, the dog-fish are often dried as food for cattle in great quantities and in winter it is fed to pigs which are said to thrive well upon it, while cows also show a great liking for this peculiar food. In Ireland, Scotland and Norway, dog-fish have been turned to account in that way. Indeed Mr. P. L. Simmonds says that ‘in Norway it is considered a delicacy.’ A large fish-buyer, who has a very wide business connection in the Western States, declared these fish when canned as superior to the Pacific dog-salmon, which is now in great demand in some important markets. Recently a very able Nova Scotian authority, who has much knowledge of fish, protested against the total destruction of the dog-fish, and especially their wholesale extermination for guano purposes on the ground that it is a waste of excellent food. He urges that

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the government should find out what is their value as human food, now that so many kinds of fish are scarce and costly. Experiments show (he states) that it is one of our very best food fish. 'I say this,' to quote from his correspondence with the department, 'after trying many experiments with the dog-fish within the last three years. I will therefore give you the results of my experiments by the common methods of curing and cooking fish. After having eaten dog-fish for a number of days, mostly with potatoes, I found them by all odds the most satisfactory fish that we have. When well cooked, boiled, fried, or broiled, their flavour is superior to any other, and they are much more satisfactory, indeed the equal of pork as to quantity, and 50 per cent more substantial than cod or haddock. Fresh or salt they are better than many kinds of salmon, with flavour much the same, but without the dryness of the salmon. Mackerel are not to be mentioned in comparison. Smoked, the dog-fish is far superior to halibut, and they dress the nicest of any fish. But that is not all. As a nerve food, there is no equal to the dog-fish. They are the most satisfactory food that I ever ate; it just seems to suit the digestion, and there is none of that ill effect that we have after eating heartily of other fish or meat. Dog-fish are not scavengers like most of our other fish; they live on live food, which may account for their fine, and delicate flavour.' The expressions of favourable opinion are not few, which have come to the department's notice. The experiments carried on with official sanction are therefore of great value and interest, and it is possible that a new food-product, in the shape of preserved dog-fish, may assume importance in the future. The primary aim of the department's dog-fish schemes, has been to secure in the most ready way the reduction of their superabundance—a superabundance which has been a menace to valuable established fisheries.

SCOTTISH HERRING CURING EXPERIMENT.

The staff of Scottish herring curers, packers and coopers resumed operations again in May, under the experienced and capable supervision of Mr. John J. Cowie, who has so ably carried out the scheme in 1904, as detailed in the last report. After carrying on the work at Canso for some time, aided by the special steam drifter No. 33, the staff were divided into two sections, part of them being engaged under Mr. Cowie's own superintendence at Yarmouth, N.S., and part of the staff being sent to Clark's Harbour where they cleaned, cured and packed herring under the supervision of Mr. Wm. McBeath, of Aberdeen, Scotland, who happened to be in Halifax, and was available to aid in the work, and his temporary assistance enabled an extended field to be covered. An exhibit of the herring cured by the staff was made at the Halifax Exhibition in September, and aroused much interest. On October 25, Mr. Cowie and part of his staff left Yarmouth for the Pacific coast in accordance with arrangements made when Mr. Cowie visited British Columbia in 1904. Stationed at Nanaimo, on Vancouver Island, the three Scottish girls and the cooper with Mr. Cowie's personal aid, were able to put up a considerable quantity of fine herring until December 11. The local curers were most ready and willing to provide the wharf, sheds and other accommodation, and evinced the greatest interest in the work. No experimental fishery work in the province has aroused more general and intense interest and leading capitalists, and operators in the British Pacific fisheries visited

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Nanaimo to watch the experimental packing operations. From Vancouver, Victoria, New Westminster and many other centres, visitors went to Nanaimo in numbers in order to watch the work, and the result is already seen in elaborate preparations for engaging in the British Columbia herring curing business on a large scale. The details of Mr. Cowie's work are given in his very full and interesting report forming the third of the special reports which precede the usual appendices to this report.

FISH BREEDING.

In the report of the Commissioner of Fisheries are given the details of the work accomplished in the department's fish-hatching establishments in various parts of the Dominion. This report, with the annual statement of the superintendent of fish culture and the officers in charge of the several hatcheries forming Appendix No. 11 of this report.

A number of new hatcheries were successfully operated during the year, indeed the marked success of the work, and the unprecedented number of establishments now in operation testifies to the exceptional ability of the staff and to the advantage of the system of fish-breeding being all placed under one authority.

Confusion and overlapping has occurred, and is bound to occur where provincial or other independent authorities exercise superintendence over a work which is not sectional or provincial, but equally relates to the fisheries of the Dominion as a whole. It was pointed out many years ago that waste and serious failure were inevitable where operations were carried on locally and apart from a general national system. Many recent instances have been prominent in the public eye of the unsatisfactory nature of limited local and provincial efforts to engage in fish-culture for the benefit of the fisheries. In the United States the federal government is being appealed to by various States to carry on fish-breeding work, and many State hatcheries have been taken out of local hands and placed in the hands of the federal staff, with the most beneficial results to the fisheries, and to the public as a whole.

The black bass ponds, Bay of Quinte, operated as usual, and the lobster ponds at Fourchu, near Gabarus, have been aiding in the propagation of lobsters under Mr. H. E. Baker's superintendence on the Cape Breton coast.

OYSTER CULTURE.

The usual operations were carried on by Mr. Ernest Kemp, the department's expert oyster officer, chief attention being given to the Caraquet beds in Gloucester County, N.B., but the most important departure was the transplantation of nearly 60 barrels (about 120,000 or 130,000 of small half grown) oysters from the Atlantic to the Pacific in the able charge of Mr. Kemp himself. A special car was engaged and over 1,000 lobsters were also taken and successfully planted in British Columbia waters. The details of this important step are given in Mr. Kemp's oyster culture report (Annex C. of Appendix II.).

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EXPERIMENTAL FISH DRIER AT SOURIS, P. E. ISLAND.

Following the policy to which the department has recently been devoting particular attention, that is, the encouragement of the expansion and development of the various branches of the deep sea fisheries, efforts in this direction were turned to the possible stimulation and betterment of conditions surrounding the industry of line fishing for cod, haddock, hake, &c., the first named of which undoubtedly forms the great staple commercial article on the dried fish markets of the world.

The decay in this branch of the sea fishery, especially around Prince Edward Island, has been attributed largely to a divergence from it to the lobster fishery, which has engaged the attention of the fishermen to an abnormal extent in recent years, to the obvious detriment of the other branches, and an improvident prosecution of the lobster fishery, two conditions equally unsatisfactory from an economic point of view, as a normal exploitation of all branches of the fishery is essential to the permanent prosperity of the fisheries and the fishermen alike.

The deflection from the line fishery and the discouragement of renewed efforts towards its revival, are in a great measure due to the disabilities under which the fishermen are labouring from the hampering of the operations of the drying and curing processes, on account of the uncertain weather conditions. Such disadvantages can be overcome only by the adoption of a system of artificial fish drying, which places the fishermen beyond the inconvenience and disastrous effects of weather fluctuations upon the treatment of their catch for the market, and it is with this end in view that the department has undertaken, as an instructive experiment, to practically demonstrate to the fishermen the great possibilities and advantages to be derived from an artificial system, which permits of the best and quickest results absolutely unaffected by any climatic conditions possible.

Although private enterprise had, in some localities, already established methods of the character, which had proved eminently successful, it was considered that the inauguration of such a drier, under government auspices, would bring prominently before the people the expediency and practicability of properly equipping themselves by adopting so obvious and beneficial an improvement, which cannot fail to place them on a permanent and successful footing.

Having decided upon this instructive venture, it was thought that the experiment could be well worked out in the province of Prince Edward Island, the conditions obtaining, both as to the lobster fishery, and the cod and other line fisheries, which are somewhat extensively conducted, though capable of greater development, being altogether favourable. Consequently a site was selected at Souris, at the east end of the island, where the possibilities of success appeared to be greatest.

Accordingly, the department received the necessary authority for the establishment of a fish drier on the model of the patent of the C. Robin Collas Company, Limited, of Halifax, with a capacity of seventy quintals of dried fish at one time. This establishment was constructed at Souris on lands obtained from the Department of Railways and Canals, and was thoroughly equipped under the supervision of an expert furnished by the C. Robin Collas Company, with which firm arrange-

ments were made for the use of their patent on payment of an annual royalty of two hundred and eighty dollars, equivalent to one dollar per tray involved in the capacity of the drier. This royalty is payable during the life of the patent, which expires in 1911.

The department secured the services of Mr. George E. McFarlane, of Souris, as manager of the establishment, whose experience in the fishing industry and careful management have combined to achieve complete success in the initial operations of this instructive experiment. Not only has the product of the drier proved to be first class in every respect, but upon the numerous markets which have already been exploited, it has commanded the highest prices paid for such staples.

It is gratifying to be able to report such favourable results in the initial year, in view of the fact that operations began only on July 25, at which date about seventy-five per cent of the season's catch had been disposed of by the fishermen.

During the balance of the season the following kinds and quantities of fish passed through the drier:—

Cod, in kench.....	165,357 lbs.
Hake, in kench.....	198,178 “
Hake, flake dried.....	42,892 “
Pollock.....	1,400 “

These fish were purchased from the fishermen at prices fixed according to the quality and condition thereof, and as a result the fishermen were induced to exercise greater care in the handling of their fish in complying with the requirements of the drier, which secured them an advance in prices previously obtaining and ensured a better article for treatment for the markets. The importance of this phase of the case is evidenced by the fact that the product of the Souris fish drier realized twenty per cent more than the ordinary flake dried fish. This fact alone should go a long way towards inducing Canadian fishermen to adopt this modern method, and thereby bring about a permanent improvement in the product placed upon the market, with attendant substantial betterment of their own conditions.

In testing the markets for these fish, shipments were made to the following places:—

Cuba, Barbados, Halifax, Sydney, Ponce, Santos, Jamaica, Spain, Portugal, Gloucester, Massachusetts, and Liverpool, Great Britain.

From a practical point of view, as an evidence of the expediency and advisability of the fishermen adopting this method, it is pleasing to report that although, as stated above, about seventy-five per cent of the season's catch had been disposed of previous to the commencement of the operations of the drier, yet when the complete returns from the sales have been received, there will be a balance over and above all running expenses in favour of the establishment.

GENERAL STATISTICS RE FISHERIES.

Extent of Coast.

The fisheries of Canada are the most extensive in the world, extending over our immense sea-coast line, besides our innumerable lakes and rivers. The eastern sea-

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coast of the Maritime Provinces from the Bay of Fundy to the Straits of Belle Isle covers a distance of 5,600 miles, while the western sea-coast of British Columbia is reckoned at 7,180 miles, which is more than double that of Great Britain and Ireland.

While the salt water inshore area, not including minor indentations, covers more than fifteen hundred square miles, the fresh water area of that part of the great lakes belonging to Canada is computed at 72,700 square miles, not including the numerous lakes in Manitoba and the North-west Territories, all stocked with excellent species of food fish.

FISHERIES EXPENDITURE AND REVENUE.

The statements of the total expenditure for the different services connected with the fisheries of Canada during the last fiscal year form the first appendix of the fisheries report.

The total fisheries expenditure amounts to \$979,588 subdivided as follows: Fisheries proper, \$104,966; fish culture, \$149,419; fisheries protection service, \$462,082; miscellaneous expenditure, \$105,893, including also \$157,228, distributed as fishing bounties.

The net total amount received as revenue from fishery licenses, fines, &c., during the same period in the different provinces of Canada is given at \$90,988. This amount comprises also the *modus vivendi* licenses issued to the United States fishing vessels, \$10,672.

A comparative statement of all the fisheries expenditure and revenue for the last fifteen years concludes this appendix.

Fuller details of the different expenditure may be found in the Auditor General's report under their proper headings.

FISHING BOUNTIES.

During the season of 1904, the sea fishermen of the Maritime Provinces received the sum of \$157,228 as bounties on their respective catches of deep sea fish for that year.

The owners and crews of the 854 fishing vessels received \$70,113 or nearly half of the above total amount, while the balance, \$87,114 was distributed amongst the 20,078 boat shore fishermen.

To cover these amounts necessitated the payment of no less than 12,671 claims; eighty claims were refused payment as being fraudulent.

For the past season the province of Nova Scotia received nearly double the amount of bounty paid to all other provinces, viz., \$99,286; Quebec, \$33,651; New Brunswick, \$15,110, and Prince Edward Island, \$9,179.

Since its inception (1882) the sum of \$3,632,138 has been distributed amongst the fishermen of the above named provinces to help in the development of their sea fisheries.

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The regulations governing the payment of such fishing bounties as well as full particulars respecting their distribution, will be found in Appendix No. 2.

VALUE OF THE CANADIAN FISHERIES.

The total value of the fish caught and the fish products of Canada during the year 1904 aggregates \$23,516,439.

With one exception (in 1901) when the phenomenal catch of salmon in British Columbia swelled the total value beyond twenty-five million dollars, this is the largest aggregate on record. It exceeds the value of the previous yield by nearly one half a million dollars.

This improvement seems general, as by glancing at the following tables, it will be noticed that, with the exception of mackerel and cod, all the other principal kinds of fish show fair increases over the previous catches.

The following table shows the value of fish by provinces as compared with that of the previous year:—

Provinces.	Value of Fish.	Increase.	Decrease.
	\$	\$	\$
Nova Scotia	7,287,099		554,503
British Columbia	5,219,107	470,742	
New Brunswick	4,671,084	484,284	
Ontario	1,793,229	258,085	
Quebec	1,751,397		460,395
Manitoba and Northwest Territories	1,716,977	238,312	
Prince Edward Island	1,077,546		21,964
Totals	23,516,439	1,451,423	1,036,862
Net increase		414,561	

As noticed, there is a falling off in three provinces and a betterment in four. With the exception of Prince Edward Island, the fluctuations in other provinces are quite accentuated. While the deficit in Nova Scotia and Quebec reaches a million dollars, the surplus in New Brunswick and British Columbia is nearly as high, and that of the inland waters of Ontario, Manitoba and the North-west Territories will aggregate one half million dollars.

The large decrease in Nova Scotia is attributed to the failure of the mackerel fishery alone, and that of Quebec mostly to the shortage in the cod industry.

The western provinces of Manitoba, Saskatchewan and Alberta are more than holding their own in fishery matters. Nearly twelve million pounds of whitefish alone are reported from those inland waters.

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The above figures do not include all the quantities of fish consumed by the Indian population of British Columbia nor by the Yukon District and other remote parts of the North-western Territories, where fish food is a staple article.

The various features in the fisheries of each province are fully explained by our different inspectors of fisheries in their respective reports forming the appendices 3 to 10 of this publication, as well as in their preliminary reports herewith.

The following statement shows the relative values of the principal kinds of the commercial fishes (above \$100,000) for the year 1904, as compared with those of the previous year:—

Kinds of Fish.	Value.	Increase.	Decrease.
	\$	\$	\$
Salmon.....	3,869,545	348,387	
Lobsters.....	3,691,151	65,769	
Cod.....	3,643,654		134,776
Herring.....	2,156,489	157,539	
Whitefish.....	1,058,812	175,780	
Sardines.....	790,441	281,420	
Halibut.....	784,564	153,001	
Trout.....	782,140	53,987	
Mackerel.....	750,397		893,922
Haddock.....	638,973	52,167	
Pickarel.....	638,567	61,284	
Smelts.....	447,579		33,225
Hake.....	363,134	102,306	
Pike.....	252,853	49,940	
Sturgeon.....	241,710	42,424	
Pollock.....	235,818		14,774
Clams.....	215,338	40,312	
Oysters.....	186,685	7,900	
Alewives.....	155,616	24,271	
Eels.....	129,944	8,345	

The quantity of fish used as bait during the season of 1904 is valued at \$439,871, that of fish oil at \$209,281, and the fur seal skins secured by the British Columbia fleet realized the sum of \$219,690.

As the above table demonstrates, the improvement in the fisheries seems almost general, as out of the twenty species exceeding \$100,000 in value, only four show a falling off when compared with the products of the previous year.

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Salmon, which last year was third on the list of importance, has once more resumed the first place, owing no doubt to the large pack of salmon in British Columbia and to the steady development of other branches of the salmon industry.

Notwithstanding the numerous predictions to the contrary, the lobster industry still held its own. It even represents a larger value than herewith quoted, as the statistical rates are quite below the regular market value.

The extraordinary diminution in the mackerel yield only proves the erratic movements of this deep sea fish. In the fresh water species, whitefish, trout and pickerel all show substantial increases over the previous returns. Over fifteen million pounds of whitefish are reported mostly from the western districts, valued at over one million dollars. Shad is the only species that dropped out of this \$100,000 list during the year 1904.

From the year 1869 to 1904 inclusive the five principal commercial sea fishes have yielded the following large values:—

Cod.....	\$132,622,167
Salmon.....	\$1,943,517
Lobsters.....	75,961,628
Herring....	70,262,084
Mackerel....	45,089,021

EXPORT OF FISH.

During the last fiscal year, the fish and fish products as well as the marine animals exported from Canada to foreign countries, amounted to \$11,144,598, chiefly to the United States and Great Britain.

RECAPITULATION

Of the Yield and Value of the Fisheries in the Dominion of Canada for the Year 1904.

No.	Kinds of Fish.	Quantity.	Value.	Total.
			\$	\$
1	Cod, dried..... Cwt.	792,881	3,571,565	3,643,654
	" fresh..... Lb.	1,238,985	56,839	
	" tongues and sounds..... Brls.	1,525	15,250	
2	Haddock, dried..... Cwt.	88,113	264,339	638,973
	" fresh..... Lb.	7,263,600	217,908	
	" smoked (finnan haddies)..... "	2,612,100	156,726	
3	Hake, dried..... Cwt.	443,163	322,117	363,134
	" sounds..... Lb.	82,033	41,017	
4	Pollock..... Cwt.	117,879		235,818
5	Tom cod or frost fish..... Lb.	3,057,710		91,731
6	Halibut..... "	14,486,145		784,564
7	Flounders..... "	1,079,310		32,379
	Salmon, preserved in cans.....	22,369,282	2,237,246	3,869,54
	" fresh..... "	5,093,627	763,925	
	" smoked..... "	443,363	45,473	
	" dry salted..... "	15,119,818	755,991	
	" pickled..... Brls.	6,544	66,910	

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RECAPITULATION.

Of the Yield and Value of the Fisheries of the Dominion, &c.—*Concluded.*

No.	Kinds of Fish.	Quantity.	Value.	Total.
			\$	\$
9	Trout (all kinds)..... Lb.	8,215,796		782,140
10	Ouananiche..... "	12,000		1,200
11	Whitefish..... "	15,468,740		1,058,812
12	Smelts..... "	8,971,576		447,579
13	Outachons..... "	1,662,000		83,950
14	Herring, pickled..... Brls.	271,288	1,240,206	
	" fresh..... Lb.	19,883,294	555,871	
	" smoked..... "	14,504,560	342,312	
	" kippered..... "	181,000	18,100	
				2,156,489
15	Sardines, preserved in..... Cans.	2,977,800	148,890	
	"..... Brls.	320,507	641,551	
				790,441
16	Shad..... "	7,301		75,828
17	Alewives..... "	38,904		155,616
18	Pike..... Lb.	6,963,900		252,853
19	Maskinongé..... "	11,000		1,100
20	Eels, salted..... Brls.	7,565	75,650	
	" fresh..... Lb.	904,900	54,294	
				129,944
21	Perch..... "	1,263,500		42,498
22	Pickeral..... "	10,757,640		638,567
23	Bass (achigan)..... "	55,100		5,510
24	" striped or sea bass..... "	136,800		13,680
25	Mackerel, salted..... Brls.	27,320	409,800	
	" fresh..... Lb.	2,838,305	340,597	
				750,397
26	Sturgeon..... "	1,648,290	169,761	
	" caviare and bladders..... "	115,270	71,949	
				241,710
27	Lobsters, preserved in cans..... "	10,762,288	2,690,372	
	" fresh or alive..... Cwt.	111,048	1,000,579	
				3,691,151
28	Oysters..... Brls.	37,987		186,685
29	Clams, and other shell fish..... "			215,338
30	Squid..... Brls.	14,790		59,160
31	Coarse and mixed fish..... "	112,717	225,585	
	"..... Lb.	14,510,000	410,148	
				635,733
32	Home Consumption, not included above.....			355,300
33	Fur seal skins in B. C..... No.	14,646		219,690
34	Hair seal skins..... "	14,399		14,999
35	Fish used as bait..... Brls.	293,247		439,871
36	" fertilizer..... "	362,703		199,257
37	Beluga or white whale skins..... No.	28		112
38	Sea otter skins..... "	7		1,750
39	Fish oil..... Galls.	665,478		209,281
Totals for 1904.....				23,516,439
" 1903.....				23,101,878
Increase.....				414,561

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RECAPITU

SHOWING the whole production of the Fisheries in the

Number.	Kinds of Fish.		NOVA SCOTIA.		BRITISH COLUMBIA.		NEW
			Quantity.	Value.	Quantity.	Value.	Quantity.
				\$		\$	
1	Cod, dried.....	Cwt.	515,926	2,321,667			91,660
	" fresh or green	Lb.			728,000	36,400	389,000
	" tongues and sounds.....	Brls.	947	9,470			280
	Haddock, dried	Cwt.	79,510	238,530			5,594
2	" fresh.....	Lb.	5,350,500	160,515			1,856,800
	" smoked (finnan haddies)		2,425,300	145,518			186,800
3	Hake, dried.....	Cwt.	103,332	232,497			33,114
	" sounds.....	Lb.	42,083	21,042			28,130
4	Pollock.....	Cwt.	94,610	189,220			23,209
5	Tom cod or frost fish.....	Lb.	186,910	5,607			2,765,000
6	Halibut.....	"	936,165	93,616	13,281,000	664,050	124,400
7	Flounders.....	"	831,810	24,954			247,500
	Salmon, preserved in cans.....	"	2,670	400	22,362,912	2,236,291	3,706
	" fresh.....	"	497,306	99,461	2,548,000	254,800	1,272,300
8	" smoked.....	"	5,313	1,063	432,000	43,200	5,650
	" pickled.....	Brls.	12	180	6,250	62,500	
	" dry salted.....	Lb.			15,119,818	755,991	
9	Trout, all kinds.....	"	110,166	11,017	491,000	48,050	251,800
10	Ouananiche.....	"					8,300
11	Whitefish.....	"					6,939,400
12	Smelts.....	"	512,176	25,609	507,500	25,375	
13	Oulachons.....	"			1,662,000	83,950	
	Herring, pickled.....	Brls.	59,528	267,876	4,673,000	233,665	160,075
14	" fresh.....	Lb.	5,070,214	50,702			4,299,600
	" smoked.....	"	1,083,500	21,670	637,760	63,776	12,605,300
	" kippered.....	"					181,000
15	Sardines, preserved in.....	Cans.					2,977,800
	" fresh.....	Brls.					319,970
16	Shad.....	"	1,153	11,530	92	925	5,694
17	Alewives.....	"	13,571	54,284			24,725
18	Pike.....	Lb.					
19	Maskinonge.....	"					
20	Eels, salted.....	Brls.	2,772	27,720			3,246
21	" fresh.....	Lb.					
22	Perch.....	"					118,500
23	Pickarel.....	"					
24	Bass (Achigan).....	"	10,350	1,035			126,450
25	Striped, sea-bass.....	"	21,599	323,985			340
	Mackerel, salted.....	Brls.	2,555,680	306,682			268,600
	" fresh.....	Lb.			35,000	3,500	6,000
26	Sturgeon.....	"					500
	" caviare and bladders.....	"					2,055,100
27	Lobsters, preserved in cans.....	"	5,357,454	1,339,363			16,882
	" fresh or alive.....	Cwt.	92,513	851,268			15,320
28	Oysters.....	Brls.	1,411	7,055		13,000	
29	Clams, scollops and other shellfish.....	"	14,181	28,362		13,240	
30	Squid.....	"	13,085	52,340			915
31	Coarse and mixed fish.....	"	72,999	145,998		58,781	9,793
	".....	Lb.	30,400	304			103,000
32	Home consumpt'n, not included above.....	"				310,000	
33	* Fur seal skins (in B. C.).....	No.			14,646	219,690	
34	Hair seal skins.....	"	344	430	6,000	4,500	172
35	Fish used as bait.....	Brls.	69,245	103,868			120,850
36	" fertilizer.....	"	63,332	31,666	607	18,210	190,615
37	Fish oil.....	Galls.	268,650	80,595	192,750	67,463	55,520
	Totals.....			7,287,099		5,219,107	

* Add 7 sea otter \$1,750.

† Add \$732, as value of

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LATION

different Provinces of Canada for the year 1904.

BRUNSWICK.		QUEBEC.		ONTARIO.		P. E. ISLAND.		MANITOBA AND N. W. TERRITORIES.		Number.
Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.		
\$		\$		\$		\$		\$		
412,470	169,184	764,928				16,111	72,500			
15,560	121,985	4,879								
2,800	228	2,280				70	700			
16,782	2,054	6,162				955	2,865			
55,704	47,000	1,410				9,300	279			
11,208										
74,507	163	367				6,554	14,746			
14,065						11,820	5,910			
46,418						60	180			
82,950	103,200	3,096				2,600	78			
12,440	144,580	14,458								
7,425										
555										
254,460	769,621	153,924				6,400	1,280			
1,130						400	80			
	282	4,230								
25,180	290,500	29,050	6,999,230	663,733	18,100	1,810	55,000	3,300		
	12,000	1,200								
1,245	53,300	5,330	3,545,100	350,970			11,862,040	701,267		
346,970	273,100	13,655			739,400	35,970				
720,337	32,949	148,271	3,530	35,295	15,206	68,427				
42,996	837,900	8,379	4,252,580	212,629	750,000	7,500				
252,106	86,000	1,720			152,000	3,040				
18,100										
148,890										
639,940	537	1,611								
56,940	472,450	6,433								
498,900					425	1,700				
	205,200	10,260	1,775,700	71,028			4,983,000	171,565		
	11,000	1,100								
32,460	197	1,970			1,350	13,500				
	859,400	51,564	45,500	2,730						
	195,400	9,770	922,600	27,678			145,500	5,050		
8,295	202,600	20,068	2,632,540	263,254			7,804,000	346,950		
	55,100	5,510								
12,645										
5,100	2,334	35,010			3,047	45,705				
32,232	2,675	321			11,350	1,362				
480	128,090	7,685	485,200	38,816			994,000	119,280		
450			31,770	22,499			83,000	49,000		
513,775	848,634	212,159			2,501,100	625,275				
137,980	120	600			1,533	10,731				
76,600					18,006	90,030				
167,378	791	3,164				3,194				
3,660	430	1,720			360	1,440				
19,586					535	1,220				
6,180	1,203,750	23,802	2,613,850	104,597			10,559,000	275,265		
							1,510,000	45,300		
215	\$7,883	9,854								
181,275	59,649	89,473			43,503	65,255				
95,307	106,650	53,325			1,499	749				
16,656	141,823	42,547			6,735	2,020				
4,671,084		1,751,397		1,793,229		1,077,546		1,716,977		

smoked alewives.

†Lb.

§Add 28 belugas §112.

RECAPITULATION showing the Total Value of the Fisheries in the respective Provinces of Canada, from 1870 to 1904, inclusive, as compiled from the Annual Reports of the Department of Fisheries.

Year.	Nova Scotia.	New Brunswick.	Prince Edward Island.	Quebec.	Ontario.	British Columbia.	Manitoba and North-west Territories.	Total for Canada.
	%	%	%	%	%	%	%	%
1870.	4,019,425	1,131,433	No data.	1,161,531	264,982	No data.	No data.	6,577,391
1871.	5,101,030	1,185,033	"	1,093,612	193,524	"	"	7,573,199
1872.	6,016,835	1,965,439	"	1,320,189	297,633	"	"	9,570,116
1873.	6,577,085	2,285,662	297,595	1,391,564	293,091	"	"	10,774,997
1874.	6,682,302	2,685,794	288,863	1,608,660	446,267	"	"	11,681,886
1875.	5,573,851	2,437,651	298,937	1,596,759	453,194	"	"	10,330,385
1876.	9,024,030	1,933,389	494,967	2,097,668	437,229	194,637	"	11,117,000
1877.	5,527,838	2,133,237	763,036	2,590,117	438,223	583,433	"	12,063,934
1878.	6,131,000	2,305,790	840,341	2,664,055	334,122	925,767	"	13,215,678
1879.	5,752,937	2,551,722	1,402,301	2,820,365	397,133	631,766	"	13,529,254
1880.	6,291,061	2,744,447	1,675,089	2,631,556	444,491	713,335	"	14,499,979
1881.	6,214,782	2,930,904	1,955,290	2,751,962	599,903	1,454,321	"	15,817,162
1882.	7,131,418	3,195,339	1,855,687	1,976,516	825,437	1,842,675	"	16,824,092
1883.	7,689,374	3,185,674	1,272,468	2,138,997	1,027,033	1,644,646	"	16,938,192
1884.	8,763,779	3,730,454	1,085,619	1,694,561	1,133,724	1,358,267	"	17,766,404
1885.	8,283,922	4,005,131	1,203,430	1,741,460	1,342,692	1,078,038	"	17,722,973
1886.	8,415,362	4,180,227	1,141,991	1,741,382	1,435,998	1,577,348	180,980	18,673,288
1887.	8,375,782	3,359,597	1,037,426	1,773,567	1,531,890	1,974,887	125,084	18,386,103
1888.	7,817,030	2,941,863	876,862	1,860,012	1,891,869	1,992,195	180,677	17,418,510
1889.	6,346,722	3,067,039	886,430	1,876,194	1,963,123	3,348,067	167,679	17,655,256
1890.	6,636,444	2,699,055	1,041,109	1,615,119	2,009,637	3,481,432	232,104	17,714,992
1891.	7,011,300	3,571,050	1,238,733	2,008,678	1,896,389	3,008,755	332,969	18,977,878
1892.	6,340,724	3,293,922	1,179,856	2,236,732	2,042,198	2,849,483	1,088,254	18,941,171
1893.	6,407,279	3,746,121	1,133,368	2,218,965	1,694,930	4,443,963	20,686,661	20,686,661
1894.	6,547,387	4,351,526	1,119,738	2,303,386	1,659,968	3,950,478	787,087	20,719,573
1895.	6,213,131	4,403,158	976,836	1,867,920	1,584,473	4,401,354	732,466	20,199,338
1896.	6,070,895	4,793,453	976,126	2,025,754	1,665,674	4,183,969	745,543	20,407,425
1897.	8,090,346	3,334,135	954,919	1,737,011	1,289,822	6,138,865	638,416	22,783,546
1898.	7,226,034	3,849,357	1,070,292	1,761,440	1,433,682	3,713,101	613,355	19,667,121
1899.	7,347,604	4,119,891	1,043,645	1,933,134	1,590,447	5,214,071	622,911	21,891,766
1900.	7,809,152	3,769,742	1,059,193	1,989,279	1,323,294	4,878,820	718,159	21,597,639
1901.	7,989,548	4,193,264	1,056,623	2,174,459	1,438,078	7,942,771	958,410	25,737,153
1902.	7,351,753	3,912,514	887,024	2,059,175	1,265,766	5,284,824	1,158,437	21,959,433
1903.	7,841,602	4,186,890	1,099,510	2,211,792	1,535,144	4,748,365	1,478,665	23,101,878
1904.	7,287,099	4,671,084	1,077,546	1,731,397	1,793,229	5,219,107	1,716,977	23,516,439
Totals..	228,885,503	113,577,110	33,284,783	68,392,988	39,636,159	88,598,833	13,590,296	595,965,662

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CAPITAL INVESTED IN THE FISHERIES OF CANADA FOR THE YEAR 1904.

During the year 1904 no less than 77,345 men were engaged in the Canadian fisheries, not including the numerous employees in the lobster industry. These fishermen used 6,392,383 fathoms of gill-nets and seines, besides other fishing gear and fixtures aggregating a capital of \$12,356,942 invested in the whole fisheries of the Dominion. This amount shows an advance of \$100,000 over the invested capital of the previous season.

The lobster plant alone is valued at \$1,390,736, comprising the equipment of 733 canneries dispersed on the coast of the Maritime Provinces. Nova Scotia had 237 canneries in operation; New Brunswick, 206; Prince Edward Island, 199, and Quebec 91. Nearly fourteen thousand persons found employment in these different establishments, which put on the market 10,762,288 lbs. canned lobsters, besides a larger quantity disposed of alive or fresh, both aggregating a value of \$3,691,000 for this branch of the fishing industry.

In the salmon industry of British Columbia the quantity of fish canned was less than during the previous season, having a few canneries less in operation, yet taking into consideration the development of other branches of this industry, as dry salted salmon prepared for the Oriental trade, for instance, which has more than doubled, the aggregate value of all kinds of salmon in British Columbia waters shows a surplus of nearly \$400,000 over the previous one. The capital invested in the canning industry alone amounts to \$1,305,000, and the total yield of all kinds of salmon in that province is computed at \$3,352,782.

Only 22 vessels of the sealing fleet were hunting during the season of 1904, using sixty boats and 161 canoes manned by 212 white men and 332 Indians. The result of this hunt was 14,646 fur-seal skins valued at \$219,690.

A preliminary report of the sealing industry of the last season (1905) will be found at page lx of this report.

RECAPITULATION

Showing the Value of Fishing Vessels, Boats, Nets, &c., and of the other Capital invested in the Fishing Industry in 1904.

Provinces.	FISHERMEN.		VESSELS.			BOATS.		NETS AND SEINES.		Value of Pound and Trap Nets, Weirs, Trawls, &c.	Value of Lobster Plant.	Approximate Value of Freezers, Ice-houses and other Fixtures.	Total Value.
	Vessels.	Boats.	Number.	Tonnage.	Value.	Number.	Value.	Fathoms.	Value.				
Nova Scotia.....	5,485	18,969	573	25,554	1,171,260	15,629	357,437	1,659,454	647,134	258,211	654,238	928,361	4,016,661
New Brunswick.....	1,280	11,985	325	4,432	147,750	7,590	259,955	979,500	454,575	355,987	347,750	547,360	2,113,377
Prince Edward Island.....	169	3,720	35	641	17,400	2,055	52,687	85,892	34,385	16,746	290,990	32,660	444,868
Quebec.....	181	12,636	29	910	21,200	7,669	227,607	346,424	195,073	223,392	97,758	477,995	1,243,085
Ontario.....	*672	2,453	*128	2,389	313,512	1,477	105,747	1,752,207	250,967	170,787	.....	90,084	931,097
British Columbia.....	{ 556 151 438 620	{ 14,060	{	{ 3,926 244,310 2,584 404,000	{ 4,786 306,792	{	{ 4,786 306,792	{ 709,644 446,829	{ 446,829	{ 36,485	{ 1,497,000	{ 1,497,000	{ 2,935,416
Manitoba and N. W. Territories.....	*273	4,286	*37	2,584	273,065	2,782	65,860	859,322	160,703	6,000	.....	166,780	672,438
Totals.....	9,236	68,109	1,316	43,020	2,592,527	41,988	1,376,165	6,392,383	2,189,666	1,067,608	1,390,736	3,740,240	12,356,942

* Tugs. † Sealers and hunters. ‡ Sealing fleet.

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RECAPITULATION.

STATEMENT of the Lobster industry in Canada during the season of 1904.

Provinces.	Number of Persons employed.	PLANT.				CATCH.					
		Number of Canneries.	Value.	Number of Traps.	Value.	Total value of Plant.	Number of Cans, Lb.	Value.	Fresh or Alive, Cwt.	Value.	Total value of whole Catch.
			¢		¢	¢		¢		¢	¢
Nova Scotia	4,406	237	192,350	643,552	461,888	654,238	5,357,454	1,339,363	92,513	851,268	2,190,631
New Brunswick	5,077	296	116,300	256,550	231,450	347,750	2,055,100	513,775	16,882	137,980	651,655
Prince Edward Island.....	2,817	139	96,485	295,976	194,505	290,990	2,501,100	625,275	1,533	10,731	636,006
Quebec.....	1,681	91	39,475	92,920	58,283	97,758	848,634	212,159	120	600	212,759
Totals.....	13,981	733	444,610	1,288,998	946,126	1,390,736	10,762,288	2,690,572	111,048	1,000,579	3,691,051

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COMPARATIVE TABLE showing Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries of Canada, together with the Value of Fishing Materials employed, from 1879 to 1904.

Year.	VESSELS.			BOATS.		Value of Nets and Seines.	Value of other Fishing Material.	Total of Capital Invested.
	No.	Tonnage.	Value.	No.	Value.			
			\$		\$	\$	\$	\$
1879.....	1,183	43,873	1,714,917	25,616	854,289	988,698	456,617	4,014,521
1880.....	1,181	45,323	1,814,688	25,266	716,352	985,978	419,564	3,936,582
1881.....	1,120	48,389	1,765,870	26,108	696,710	970,617	679,852	4,113,049
1882.....	1,140	42,845	1,749,717	26,747	833,137	1,351,193	823,938	4,757,985
1883.....	1,198	48,106	2,023,045	25,825	733,186	1,243,366	1,070,930	5,120,527
1884.....	1,182	42,747	1,866,711	24,287	741,727	1,191,579	1,224,646	5,014,663
1885.....	1,177	48,728	2,021,633	28,472	852,257	1,219,284	2,604,285	6,697,459
1886.....	1,133	44,605	1,890,411	28,187	850,545	1,263,152	2,720,187	6,814,295
1887.....	1,168	44,845	1,989,840	28,092	875,316	1,499,328	2,384,356	6,748,840
1888.....	1,137	33,247	2,017,558	27,384	859,953	1,594,992	2,390,502	6,863,005
1889.....	1,100	44,936	2,064,918	29,555	965,010	1,591,085	2,149,138	6,770,151
1890.....	1,069	43,084	2,152,790	29,803	924,346	1,695,358	2,600,147	7,372,641
1891.....	1,027	39,377	2,125,355	30,438	1,007,815	1,644,892	2,598,124	7,376,186
1892.....	988	37,205	2,112,875	30,513	1,041,972	1,475,043	3,017,945	7,647,835
1893.....	1,104	40,096	2,246,373	31,508	955,109	1,637,707	3,174,404	8,681,557
1894.....	1,178	41,768	2,409,029	34,102	1,009,189	1,921,352	4,099,546	9,439,116
1895.....	1,121	37,829	2,318,290	34,268	1,014,057	1,713,190	4,208,311	9,253,848
1896.....	1,217	42,447	2,041,130	35,398	1,110,920	2,146,934	4,527,267	9,826,251
1897.....	1,184	40,679	1,701,239	37,693	1,128,682	1,955,304	4,585,569	9,370,794
1898.....	1,154	38,011	1,707,180	38,675	1,136,943	2,075,928	4,940,046	9,860,097
1899.....	1,178	38,508	1,716,973	38,538	1,195,856	2,162,876	5,074,135	10,149,840
1900.....	1,212	41,307	1,940,329	38,930	1,248,171	2,405,860	5,395,765	10,990,125
1901.....	1,231	40,358	2,417,680	38,186	1,212,297	2,312,187	5,549,136	11,491,300
1902.....	1,296	49,888	2,620,661	41,667	1,199,598	2,103,621	5,382,079	11,305,959
1903.....	1,343	42,712	2,755,150	40,943	1,338,003	2,305,444	5,842,857	12,241,454
1904.....	1,316	43,025	2,592,527	41,938	1,376,165	2,189,666	6,198,584	12,356,942

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COMPARATIVE TABLE showing the number of men employed in the Fishing Industry since 1880.

Year.	Number of Persons in Lobster Cannaries.	Number of Men in Vessels.	Number of Men in Boats.	Total Number of Fishermen.	Total Number of Persons in Fishing Industry.
1880.....		8,757	51,900	60,657	
1881.....		8,359	50,679	59,056	
1882.....		8,498	52,785	61,283	
1883.....		9,966	52,259	62,225	
1884.....		9,968	51,854	61,822	
1885.....		9,539	53,282	62,821	
1886.....		8,927	53,073	62,000	
1887.....		8,911	55,247	64,158	
1888.....		9,574	53,109	62,683	
1889.....		9,621	55,382	65,003	
1890.....		8,726	55,000	63,726	
1891.....		8,666	56,909	65,575	
1892.....		8,330	55,348	63,678	
1893.....		8,899	58,854	67,753	
1894.....		9,525	61,194	70,719	
1895.....	13,030	9,804	61,530	71,334	84,364
1896.....	14,175	9,735	65,502	75,237	89,412
1897.....	15,165	8,879	70,080	78,959	94,124
1898.....	16,548	8,657	72,877	81,534	98,082
1899.....	18,708	8,970	70,893	79,893	98,601
1900.....	18,205	9,205	71,859	81,064	99,269
1901.....	15,315	9,148	69,142	78,290	93,605
1902.....	13,563	9,123	68,678	77,801	91,364
1903.....	14,018	9,304	69,830	79,134	93,152
1904.....	13,981	9,236	68,109	77,345	91,326

FISHING SEASON OF 1905.

PRELIMINARY REPORTS OF THE INSPECTORS OF FISHERIES IN THE DIFFERENT PROVINCES.

GENERAL REMARKS.

A cursory glance at the following brief reports from the different parts of the Dominion, will convince the inquirer that the fishing season, just closed in December last (1905) will even surpass the previous one, the details of which are published in full in this volume. The aggregate value of the fisheries for the season of 1905 will probably be the highest ever published in the Fisheries' reports.

In the Maritime Provinces, while the yield of the cod family might not attain that of 1904, the high prices now received especially for cod will more than compensate for the shortage in the mid-summer catch of that staple fish. Mackerel was late in coming to our coasts and few were captured. The Bay of Fundy herring were as abundant as in 1904.

The lobster pack will be an average one. The dog-fish nuisance is now being transformed into a source of revenue; reduction works have been established on the coast to convert this pest into saleable products.

A glance at some of the reports of the Intelligence Bureau staff published in Appendix 13 of this volume, will better help to form an idea of the marine products secured this season in the principal fishing centres, such as Lunenburg, Canso, Ingonish, Cheticamp, &c.

The Lunenburg County fishing fleet (the Gloucester of Canada) numbering about 150 vessels, did not fare as well as last year on the grand banks, showing a shortage of over two million pounds of deep sea fish.

Manitoba and other western districts, will maintain the good catches of last year.

British Columbia, especially the Fraser river district, will show one of the largest salmon pack on record. The halibut industry was also very profitable. One may judge of its extent, when over \$300,000 were paid for its railway transportation alone.

NOVA SCOTIA.

Inspector A. C. Bertram, of North Sydney, C.B., states, that while the catches in certain branches of deep sea fish, noticeably cod and mackerel, have been below an

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average catch, the high market prices received for those leading commercial fish will bring the total values up to that of 1904. Dog-fish and a scarcity of bait are the reasons for decrease of catch in cod, while the mackerel fishery was a failure on that section of district No. 1, from Cape St. Lawrence to Fourchu. Usually in autumn, on this particular coast, the mackerel gill-net fishery is good, but the present autumn, mackerel appeared in unusual large shoals on the northern coast of Inverness county, when the local fishermen made good catches and realized good prices.

The several fish-traps along the northeastern coast of Victoria county captured large quantities of haddock in the early part of the season. Immense shoals of these fish appeared in shore and followed closely the shore line and were thus taken in traps. Among the fishermen along that section of the coast, and other sections as well, applications for trap-net licenses for 1906 will be far in excess of any previous year.

The spring herring fishery was good in the bays and harbour resorts of those fish, and large quantities were purchased by United States, provincial and St. Pierre fishermen for bait purposes. The restriction placed on United States bait fishery by the Newfoundland government caused a larger number of their fishing vessels to seek bait in Canadian waters.

This autumn, large numbers of Newfoundlanders came by steamer to North Sydney, and shipped here on board of United States fishing vessels and proceeded to Bay of Islands and Bon bay to engage in the herring fishing.

The salmon gill-net fishery this year will slightly exceed an average catch. The angling of salmon in the Margaree river this season has been the best for twenty-five years. There has also been good angling in Little river, Cheticamp.

Squid for bait, while very scarce all summer, was plentiful this autumn. The regulations were well observed, with the exception of the Margaree river, where frequent attempts were made to poach in the pools. Some of the poachers have been convicted and imprisoned.

Inspector R. Hockin, of Piclou, says that the statistical reports for the year 1905, in district No. 2, will show that the quantity of lobsters taken was about the same as last year. The mackerel fishery, however, will show a decrease of about 40 per cent. Herring, an increase of about 10 per cent. Codfish, a decrease of 20 per cent; while of haddock, pollock and hake, there will be shown a considerable increase. So that the result of the catch of the whole cod family is expected to be about equal to that of last year.

There is a large increase in the quantity of halibut.

The salmon fishery will also show an increase, but this has been a disastrous year for this fishery; the rivers in this district for many years (some say forty) have not been known to be so low during the time this fish frequent them for spawning, and the protection of the fish was beyond the means available.

The shad fishery has been a failure, and drastic measures appear to be necessary to recuperate this valuable fishery.

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The catch of gaspereaux was about the same as last year, but is very small compared with that of ten years ago.

Other fisheries have been about normal.

NEW BRUNSWICK.

Inspector J. H. Pratt, of St. Andrews, states that the catch will be equal to that of 1904, with very little difference in the financial returns received by the fishermen. The herring fishery is the principal one in these waters, and although the small herring for sardine purposes were as plentiful as in any previous season, the prices paid for them by the canning factories kept as low as \$1.50 per hogshead for several months, leaving little, if any, profit for the many weir owners. This season the famous herring fishing ground for large herring, to the southward of the island of Grand Manan, known as the 'rippings,' gave very large catches to those fishermen who ventured there, and it is generally admitted by them that the 'rippings' gave better fishing this season than it has for fully fifteen years.

Pollock will show a catch fully equal to last season, as many weirs caught pollock as well as herring, one weir, for instance, catching as many as 1,000 quintals during the season. Our fishermen received a higher price for pollock than ever before.

Cod, hake, and haddock brought remunerative prices to our fishermen all the season, cod fully averaging \$5 per quintal. During a great part of the summer months hake were quite plentiful, and one week, for instance, some of the fishermen stated that they could 'catch all they wanted,' the amount of a person's catch being simply according to the size of his boat, and his inclination for work.

In all probability the lobster catch will show an increase, owing to the large catches at Grand Manan, which the fishermen attribute to the throwing away of those under the legal size of $10\frac{1}{2}$ inches during the seasons of 1903 and 1904. This gratifying catch has had the effect of making the Grand Manan fishermen almost unanimous now in their desire to change the present 9-inch size limit to that of $10\frac{1}{2}$ inches. The one season's trial was sufficient to show them the immense benefit the change would be to them, financially and otherwise.

The salmon catch on the shores of St. John county and St. John harbour will show a gratifying increase, not only in the catch, but also the price paid the fishermen.

Dog-fish were not as plentiful as in previous seasons, and on this account the fishermen were enabled to pursue their work without any cessation, as they were compelled to do in previous seasons, when this voracious fish became too troublesome.

The killing of pollock by means of dynamite, most unfortunately, was resumed again this season by a number of lawless State of Maine fishermen, on their side of the line, but occasionally, when the *Curlew* was absent from the district they would wander over to the Canadian waters for a few hours. Its use as a fish killer is very effective. In the task of securing information against the guilty parties, it was surprising how backward our fishermen were in giving any assistance. This practice

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was stopped when the inspector went to Eastport and assisted the State of Maine officials in hunting down all those using the explosive. Three of them were arrested and fined \$200 and six months' imprisonment, warrants were issued for a number of others, and this method of procedure stopped the use of dynamite for the season.

Inspector R. A. Chapman, of Moncton, says that in the aggregate the value of the fisheries will be about up to those of last year.

Shad fishing has been of very little importance for some years past.

Salmon have been taken in largely increased quantities almost everywhere, and this fall, after the season closed, they were swarming, not only in the rivers and streams, but on the coasts, in such numbers that they were even taken in the mackerel nets.

Spring herring were as plentiful as ever, and were caught in immense quantities for every available use, including increased quantities again smoked. The catch of fall herring on the Caraquet Miscou banks, was not up to the average.

The catch of codfish is not nearly as large as in 1904, owing to scarcity of bait in the early part of the season, and the dog-fish nuisance later on. Something should be done to ensure a permanent supply of bait.

Smelt fishing was not nearly as good last winter as the year previous, and they were generally of small size, but this season they are reported plentiful and large; many are being caught by hook and line as well as in gill-nets.

More oysters have been raked this fall than in that of 1904, and prices are higher than ever known previously. More hard shell clams (Quahogs) have been raked than ever, and higher prices for them have prevailed. Some four or five hundred boats are now engaged in this fishery and if we can properly protect the areas on which fishing is not allowed (preserved for oysters and spatting) I believe the enormous output will be maintained.

The pack of lobsters was upwards of two thousand cases in excess of that of 1904, the increase being more than this on the coasts between Chockpish and Miscou, while on the inside along the Baie des Chaleurs, especially at Caraquet, it was much smaller. The cannery at these points complain that they cannot commence work nearly so early in the spring as those on the outside.

The catch of other kinds of fish will prove fully to the average.

Inspector H. E. Harrison, of Fredericton, reports the inland fisheries of New Brunswick quite as satisfactory as in former years. Notwithstanding the quantities taken in the St. John harbour, the river and its tributaries and the lakes, the supply seems to keep good, and salmon in particular show indications of improvement. Possibly on account of the unprecedented dry season and consequent low water in the 'Rhine of America,' it may have been more difficult for salmon to successfully pass the many nets set near the head of tidal water, but from a report just received from a fishery officer of the Tobique Salmon Club, it appears that very many have reached

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the mouth of the Tobique, but on account of the very low condition of that river, probably they will spawn in the St. John river. A very pleasing feature, and one apparently new, was the fact that salmon would rise to the fly near Fredericton. Fly-fishing on the St. John has been tried many times before, but with indifferent success.

Shad were plentiful again this season, and the demand always seems to exceed the supply. These fish in the fresh state seem to be the favourite with the public.

Alewives came in the usual large quantities, and those handling them got satisfactory returns for their labour.

Sturgeon fishing seems to be improving slowly, and slightly better returns are probable this year.

Generally speaking, it is safe to say that the season has been quite satisfactory.

PRINCE EDWARD ISLAND.

Inspector J. A. Matheson, of Charlottetown, states that a shortage of from fifteen to twenty per cent may be expected in lobsters, while some sections of the island exceeded last season's pack, the whole will show a shortage.

Codfish and hake were not as plentiful as in former years, with the exception of East Point, where large catches were taken up to December 10, and owing to the use of the fish drier, for curing said fish, the fishermen were able to dispose of all they could catch at remunerative prices.

Oysters were a little short of the average catch, which is accounted for by the increased size limit, as the quality of oysters available of the legal size are limited.

The increased demand for Quahogs has stimulated this fishery, and large quantities have been taken and shipped to the American market. It is now time that some restrictions were adopted to regulate the catch of this fish.

Mackerel were very scarce, but those taken were of good quality. Smelt fishing was not up to that of the past season, owing principally to the severe winter, but prices ruled high throughout the season.

Herring were taken in sufficient quantities for local purposes.

On the whole, it appears as if values would fall short of last season.

QUEBEC.

Dr. W. Wakeham, officer in charge of the Gulf of St. Lawrence division, reports that the season of 1905 has been a peculiar one. The summer fishery, whether for cod, herring, or mackerel, was poor over the greater part of the Gulf, and it was only late in the fall, when most of the fishermen had become disheartened, and had abandoned the fishing for more reliable employment on shore, that the fishing, especially for cod, became good.

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Spring herring appeared on their usual spawning grounds in April and May, and were as abundant as ever, but they did not remain long in shore. Herring were uncertain and scarce all the rest of the season in the neighbourhood of the main fishing station. A considerable run of small herring fish about five or six inches long—too small to be meshed in the nets commonly used—was observed on various parts of the coast. On the south shore of the inner Gulf, from Fame Point to Cape Chatte, mature herring were fairly abundant, and the fishermen on this part of the coast did well, especially as owing to the general scarcity of herring unusually good prices were obtained.

The cod fishery began at the usual season, but was never good until quite late in the fall, after fully three-fourths of the fishermen had left the coast for the lumber camps, which they now do at a much earlier date than formerly. The salmon fishery on the lower north shore, and Labrador was practically *nil*. Vessels only remained a few weeks on the coast, when finding that there was nothing for them to do on our coast, they left for the outer or main Labrador. Those who received good berths between Belle Isle, and Cape Harrington, did unusually well, as the cod were very abundant on this part of the Labrador. Those who went further north, beyond Cape Harrington, made poor voyages.

As was the case with the herring, and no doubt due to the presence of these fish on the south coast, from Cape de Rosier to Cape Chatte, and even further west, where of recent years cod are not usually found, the fishing was good. Owing to this abundant fishery, and the enormously high prices paid (cod having in some cases fetched as much as \$6 per cwt) the fishermen on the coast in question are revelling in abundance.

The returns from the lobster cannery will show a decreased catch on the mainland of both the south and north shores, and at Anticosti. At the Magdalen islands the pack will be about an average. The fall fishing at the islands made in September, did not amount to anything, and when the three years during which the fishing was allowed as an experiment, has expired, no serious demand will be made for its continuance.

Dog-fish struck in about August 1, and remained about till the end of September, though they were very numerous, and did a great deal of damage along the coast from the mouth of Gaspé bay, and into the Bay Chaleur, and at the Magdalen islands. Over the rest of the division they did not interfere seriously with the fishery, while when herring and cod were most abundant on the western part of the south shore, the fishermen did not make any complaint about them. It seems evident, that in the inner gulf they are backing off, and as this is the most northern limit of their incursion, on this side of the Atlantic, it must be taken as a favourable sign.

The salmon fishery should show an increase over that of 1904, though the catch on the south shore, in Gaspé and Bonaventure counties was better than in 1904, yet it was considerably below the average. The fish were very late in coming in, in fact, it was only late in July, when netting on the south coast becomes almost an impossibility on account of the difficulty in keeping the nets clean, that the fish began to

run in freely. On the north coast, however, the fishing was good all through the season, the catch in the nets being in many places greater than it was ever known to be before. It is very probable that salmon from or belonging to the south shore rivers are crossing to the north coast in search of food; no doubt some of them return to their native rivers, and this will account for the lateness of the run on the south shore; but it is doubtful whether they all do return. As the capelin furnish the principal food of the salmon, along shore and near the great estuaries during the early summer, the practice of taking capelin for manure should without doubt be stopped.

The whaling station of the Quebec Steam Whaling Company was opened for work at Seven Islands during the summer. Some sixty odd whales were reported to have been captured. They were nearly all taken off Seven Islands bay, close by the station. Though the returns from all branches of the fishery, save the salmon, may show a decrease in quantity; yet the prices for all kinds of fish have run so enormously high that fishermen generally are well off. Crops of all kinds were good. The season was fine, and the fall open, so that with the exception of the north coast below Natashquan, where the people are dependent solely on the codfishery which failed, plenty reigns in the Gulf division.

A large number of United States 'bankers' carried on the cod fishing along the Labrador between Mount Joli and Belle Isle, where they have, under the treaty, a right to fish. These vessels were compelled to fish here, because they could not get bait in Newfoundland as formerly. They made poor fishing, and the quality of fish they caught was one not suitable to the United States market, where they require large thick fish such as are unusually taken on the Grand Banks. This fact, coupled with the collapse of affairs at St. Pierre Miquelon, owing to the impossibility of getting fresh bait, should be an object lesson to our authorities, as to the condition to which foreign fishermen would be reduced were the supply of fresh bait quite shut off.

Inspector Joseph Riendeau, of Montreal, reports as follows:—

In relation to the district under my supervision, which comprises that part of the province of Quebec between the County of Champlain and the County of Soulanges, included, on the north shore of the St. Lawrence and its tributaries, and on the south shore from the County of Nicolet to the County of Huntingdon, as far as the head of Lake St. Francis, and all the tributaries, I refer you to my last yearly report, and I am sorry to say that all my endeavours have not been crowned with success.

From Three Rivers to St. Sulpice, which means the counties of Three Rivers, Maskinongé, Berthier and L'Assomption, notwithstanding all the repeated promises and my personal representations, the fishermen have acted as if there was no law regulating the fisheries. This can be explained in a certain measure by the fact that in most cases, the fishery overseers neglect their duty and do not care about the law being respected. All kinds of nets are being used, most of them being small meshed and they cover all the small bays and creeks. This explains the wholesale destruction of small fish. In many cases the night lines are baited with game-fish. These abuses are practised especially in the counties of Nicolet and Yamaska on the south shore.

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In Baie Lavallière, which is in Yamaska county, the fish go to spawn in the spring season when the water is high, but the fishermen take this opportunity to set their nets amongst the half-submerged bushes and catch them.

For this reason I am of opinion that fishing with nets of any kind should be stopped entirely in that part of the country. The same measure might be adopted for all the bays on the north shore chosen by the fish to spawn.

There are certainly in Lake St. Peter and the bays along the shores 1,500 hoop-nets, not mentioning gill-nets and seines. Each of these nets is fitted with a leader, measuring from twenty-five to one hundred fathoms. These nets and leaders are profusely coated with fresh tar, which gives to the water an oily appearance and constitutes a poison for the fish led into them.

All these abuses are specially noticed on the south shore from the County of Nicolet to Richelieu County. In the latter county the law is fairly respected with the exception that in the spring season, the fishermen use seines in the Richelieu river from Sorel to St. Ours, where the doré go to spawn. This causes great destruction of fish life. If nets of all kinds were entirely prohibited in the above named river, the result would be very satisfactory.

From Sorel to Lachine bridge the law is generally respected on the south side. The fishery overseers attend to the duties allotted to them, and the fishermen better understand their own interests.

In Mille-Iles river and Back river, fishing with nets of any description should be stopped. The destruction in that district is great, but it may be explained by the fact that the Seminary allows nets in Mile-Iles river. In Lake St. Louis, County of Chateauguay, the fishing is greatly abused, and since last year, a big reduction has taken place in the quantity of fish caught; this is due to seining. In Beauharnois on the same lake the overseers take good care that nets and seines are not used.

At Ile Perrault and Ste. Anne de Bellevue on the same lake and on the north side, seines and nets were used, but on visiting both these places last spring, I had those fishing implements removed.

In Lake St. Francis, principally in the County of Soulanges, fishing was practised with nets when I paid a visit. I saw the overseers in connection with this matter, with the result that stringent measures were taken and the nets ceased to be used.

At Coteau du Lac, the spearing of eels is practised on a large scale. In my opinion, this kind of fishing ought to be prohibited, because the spear is used not only for eels but for all kinds of fish, and especially the sturgeon.

In Lake of Two Mountains, the abuses are also very noticeable. The fishermen use all kinds of nets during spawning season, and this is due to the Seminary allowing people to fish in Bay St. Joseph as they do in the Mille-Iles river.

In the lakes of Berthier, Terrebonne and St. Maurice, the law seems to be ignored. The fishery overseers either do not know their duty or do not want to enforce the law. The fishermen are allowed the greatest of freedom. As a consequence the destruc-

tion of trout is considerable. Some are sent to the Montreal market, which sometimes do not measure more than three inches.

People complain of the scarcity of fish, but it must not be forgotten that with all the abuse of fishing, and the number of nets increasing every year, we cannot expect an increase in the fish. Fishing minnows with nets contributes also in a great measure to the general destruction of game fish. Most of the people would receive with satisfaction the news of the prohibition of seining minnows. To give an example the game-fish such as maskinongé, black bass, doré and trout, did not yield half as much as in the two previous years.

I respectfully submit that if fishing with nets in all the small rivers and bays where the fish go to spawn was prohibited in the spring season, great advantages should follow immediately.

I was proud last spring to report to you a general and great improvement, all our endeavours seemed to have achieved a success, unfortunately these favourable signs have disappeared since the beginning of this fall. For unaccountable reasons the fishermen have returned to their nefarious habits. Perhaps this is due to the overseers not paying sufficient attention to obtaining true obedience to the law. That is the only reason I can allege.

Inspector A. H. Belliveau, of Ottawa, who has charge of the inland district of Quebec, expects another falling off in the aggregate yield of fish for the season just closed. The better grades of fish are steadily being depleted, even the coarser kinds are now becoming scarcer. Exhaustive fishing in the past and indiscriminate use of small gear naturally lead to the capture of immature fish.

As the commercial fishing carried on during 1904, in Lakes St. Jean and Temiscaming has been curtailed and checked by the new provincial Minister of Fisheries, the aggregate catch will be decreased in those waters in a like proportion. If all the proposed restrictions recently adopted at the Fisheries Congress in Montreal are carried out and enforced in the inland waters of Quebec, the decrease now noted in the fisheries production will still be more pronounced in future years, as the tendency will be to replace the existing commercial fishing by domestic and sportive fishing. While the present limited supply of coarse fish is not sufficient to keep up a profitable commercial industry, with care and efficient protection, it might for years yet, furnish the domestic consumption at least in the immediate vicinity of the most extensive fishing grounds.

It is to be hoped that the federal and provincial authorities will agree on the adoption and enforcement of the necessary restrictive measures, which might still be conducive to a partial restoration of the former abundance of the finny tribe in the lakes and streams of the province.

To retaliate because Missisquoi bay was not reserved from netting, the State of New York prohibited the shipping of fish from that vicinity within its boundary. However, most of the fishing was over before this restrictive measure could be enforced. As it also comprised the fish of Richelieu river, it greatly annoyed, for a

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time, the owners of the famous Iberville eel-weirs to whom Fulton market was then closed. However, other markets were soon found in the west which proved more profitable than the New York ones, and in the future it remains very doubtful whether any more eels will be shipped east. The eels were as plentiful as ever, but in the fall the water was so high that the fishing season was somewhat shortened.

A noticeable incident this summer was the abundance of black bass in the upper waters of Richelieu river. In the vicinity of St. Jean and Iberville a single angler would capture two or three dozens of good sized ones in a comparatively short time. Below the Chambly dam they were scarce, which would indicate that these fish came from Missisquoi bay and not from the St. Lawrence.

ONTARIO.

*Inspector J. M. Hurley, of Belleville, says:—*The district comprising my inspectorate is a large one, and during the year I have visited a good many lakes, with a view of ascertaining the conditions existing as well as the manner in which the fishery regulations were being complied with.

I found evidence of some minor irregularities, but on the whole illegal fishing was not carried on extensively. I might refer to the present close season for salmon trout and whitefish, viz., the month of November. This period no doubt covers the spawning season of nearly all the whitefish, but many salmon trout spawn earlier; in some lakes as early as October 20. This question of close seasons for the various species of fish is worthy of the department's serious consideration.

Whilst the fishing in the eastern district of the province is largely angling and trolling, the commercial fishing is of great importance, and I am pleased to be able to report an average catch of all kinds of fish. Bass were this year very plentiful, some splendid sport having been experienced on the Bay of Quinté as well as on all waters frequented by anglers in search of the gameful black bass.

The Bass pond conducted by the federal government at Point Ann on the Bay of Quinté has again produced good results, and in addition to the quantities of young fish liberated in the Bay of Quinté waters, in all parts of the country, suited to the small-mouthed black bass, have been restocked.

The protection of inland lakes in the spring, during the close season for bass and pickerel is inadequate and numbers of pickerel are slaughtered at this season of the year and to this cause, can be largely traced the depletion of this valuable fishery.

The enforcing of the regulation prohibiting the escape of sawdust into streams should also receive more attention in the spring as this is the season when the local mills are sawing logs and no provision is made to prevent the sawdust going into the water.

*Inspector O. B. Sheppard, of Toronto, says:—*Commercial fishing in my district this year, especially in international waters, as far as I can learn, has been fairly satisfactory, but in the aggregate will show a decrease from the last few years. This

is only what may be expected under the present license system, which, to my mind, allows a greater number of licenses than the fisheries can stand. The rod and line fishing, especially in the inland waters, shows a very marked decrease, and unless special and drastic legislation is made and rigidly enforced, this diminution will continue from year to year. I would again emphasize my former report that no netting of any kind should be allowed in waters where game fish are taken and that more breeding ground should be set apart not only for game fish but commercial fish as well. As the population of the country increases and the tourists become more numerous, greater quantities of both game and commercial fish are taken out of the waters and the supply greatly diminishing, cannot but result in a very few years in serious falling off of the catch. The most serious problem to be dealt with at the present time is the enormous increase of carp both in international and inland waters. Whether anything can be done to stop this increase, I am unable to say, but I am satisfied that if they are allowed to go on as at present the result will be most disastrous to all fisheries, and I believe that in a very few years they will be practically the only fish to be found in Canadian waters either international or inland where they have been introduced. This is a question that should be taken up both by the Dominion and provincial governments with a view to finding out, if some means of extermination cannot be devised. They have increased to such an extent that it seems almost a hopeless task, but in another year or two it will be a hopeless one. Not only are they a most serious menace to our fisheries, but to the wild fowl that frequent our waters as they are destroying the wild rice, which is the chief food of these birds. A great many fishways have been placed in the various waters of my division the past year, which I think will have good results in the future.

The brook or speckled trout fishing has been fairly good in my division the past season. This has been materially helped by the various private fish preserves in the district which should be encouraged in every way that is not detrimental to the general public interest.

The fish protective service has been fairly carried out, but there are many ways in which this service might be improved.

Inspector A. G. Duncan, of Markville, says: The fisheries of this district are gradually decreasing, especially the whitefish, trout and sturgeon. This is attributed to the fact that the regulations governing the fisheries are not complied with by the fishermen. More nets are used than are granted by the licenses, and this method of evading the law is made easy for the fishermen by the steam hoisting gear on the fishing tugs, enabling the fishermen to handle additional quantities of nets.

The tug *Gordon Gauthier* and nets belonging to the Dominion Fishing Company, were seized by the Ontario Fishery Department, and a fine of \$300 imposed for illegal fishing. A number of pound-nets, which are called fyke-nets, were also seized, and a fine of \$20 on each net was imposed on the owners. Two fishing companies were also fined \$50 each for buying illegally caught fish.

In this connection I would recommend that no pound or fyke-nets be allowed east of Little Current to the Bustard islands, as these waters, in my opinion, supply the Georgian bay with fish and should be protected.

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American fishing tugs also come into Canadian waters and fish without a license, and I would recommend that a government official examine at Sault Ste. Marie, before they are allowed to be removed to the American side, all the fish taken or bought on the fishing grounds in Lake Superior.

The November close season might be more strictly observed, and in cases where permits are issued for the packing of herring during this period I would recommend that an officer be appointed to see that the law is properly complied with, and that the expenses of this officer be paid by the party to whom the permit is issued.

Another question that to some extent affects the close season is the issuing of permits for the taking of parent fish for the purpose of procuring fish eggs for fish breeding establishments that are run as private enterprises. This privilege is open to abuse and should not be encouraged. I would recommend, however, that in future such permits, if any are granted, only allow of pound-nets being used for this purpose, and that representatives of the department be in charge to see that the fish are liberated.

Last season the licenses did not reach the fishermen until the fishing season was partly over. This delay tends to lessen the value of a license to the fisherman, and I would advise that all licenses be in the possession of the fishermen before the fishing season commences, and that no fisherman be allowed to start fishing until he has received it.

Inspector Wm. S. Young, of Selkirk, Man., says:—'The fisheries for the province of Manitoba will be an average yield and will compare favourably with the returns of 1904. Lake Manitoba being closed to summer fishing, will no doubt cause a falling off in the catch on that lake, but in the aggregate catch I look for an average season. During the summer or the commercial season, the weather was anything but satisfactory; storms prevailed, followed by frost, which closed navigation, on or about October 25. This prevented the fishermen from getting out into their fishing grounds, thus entailing in some cases heavy losses. Many boats are frozen in at different points on the lakes in my district, but there has not been up to the present time, the loss of a boat or the life of any one. In the aggregate the catch of all kinds of fish will compare favourably with the previous season, and I think the prices realized will be a little better.

NORTHWEST TERRITORIES.

Inspector Harrison S. Young, of Edmonton, reports that the early part of the year was not favourable to the fishermen. Large catches were made, but many fish were spoiled for export trade, on account of sudden and frequent thaws. Later in the season, the fishermen at White Whale and Pigeon lakes did well and received good prices for their catch. These two lakes are the only ones which are at present fished for export trade, and then only in the winter. The total catch for the year will be about the same as last year. This district is settling up very fast, and the grounds over which I have charge are constantly extending. A large quantity of coarse fish is killed by hook and line; new and poor settlers greatly appreciate this source of

food supply, and are glad to be able to get a meal of even our worst fish, being used to even coarser and more inferior fish in their native countries. The shutting up of creeks in spring has been the greatest trouble to contend with this year. Water in all lakes and streams has been lower than for years past.

All the whitefish lakes are overrun with pike, and I think means should be taken to destroy them in these waters. Where there are no whitefish they are a good fish.

From all over the district I am constantly receiving requests to have lakes and creeks stocked with fish, in some cases it is to stock waters where there are no fish, in others asking for whitefish or bass, or trout. I would urge on the department the advisability of establishing a hatchery. There are now branch railroads running east from Wetaskiwin and Lacombe, and we have the Canadian Northern paralleling the Saskatchewan river, so that many lakes and creeks are now within easy access of a railroad.

BRITISH COLUMBIA.

Inspector C. B. Sword, of New Westminster, says:—‘The fishing industry within the limits to which this district is now confined consist practically wholly of salmon and halibut, the latter being mainly taken in the northern district No. 2, though the catch being landed at Vancouver, comes into the returns for district No. 1.

The pack of sockeye salmon on the Fraser river this year is the best since 1901, and while it will not amount to so much as in that year, would probably have exceeded it had the canners made sufficient provision in cans, and had it not been for the difficulty they found in getting inside labour to operate their machinery to its full capacity.

The Fraser river sockeye pack will probably amount to 800,000 cases. This, however, is merely an estimate, as many of the canneries have not yet got their pack cased. There was a very late run of a very unusual extent and some of the canneries took advantage of it to fill up their empty cans after the annual close season for sockeyes on September 15. This late run was so heavy that many of the fish reached the upper spawning grounds at Shuswap and Seton lakes, which is unusual.

There were a considerable number of dog salmon salted for the Japanese market and also a large number of cohoes canned, salted and put into cold storage, but it is too soon to get any returns as to the respective quantities of these.

The take of halibut will not probably reach the return of last year; the falling off, however, is to some extent to be attributed to one of the steamers engaged in the fishing, having been wrecked early in the year.

Inspector John T. Williams, of Port Essington, B.C., says:—‘I have to inform you that this season has again been a most successful one for cannerymen and fishermen alike; all the canneries and fisheries were running their full capacity and filled up, the prices for canned salmon were fair, though not so good as last year, but in spite of this, it has been a successful season. I may say that the run on Rivers inlet was phenomenal, owing, I believe, to the favourable climatic conditions, for several

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days the canners were obliged to lay off the fishing boats altogether, as the inlet was blocked with salmon, all sockeye, and after they had finished their operations for the season, immense quantities of sockeye ascended to their spawning grounds on Oweekayno lake. I may inform you that the revenue for my district this season is \$15,808, resulting from the issue of 1,503 licenses, consisting of commercial, domestic, purse and drag seine. Fines amounting to \$354 were imposed for illegal fishing. In 1904, 319,957 cases were packed, and in 1905, 265,600 cases. These figures are only given approximately, as the cannerymen have not yet completed boxing up.

I have not yet obtained the returns in connection with the dry salted dog salmon, for Japanese market, but the figures will show an immense increase this season, as the Japanese have gone extensively into the business erecting salteries and buying their fish from the Indians, who catch them with gill-nets, having of course first obtained their commercial licenses. The price has again increased since last year. I look for this industry to assume large proportions in my district in the near future.

With regard to the Oulachon catch, this seems to be decreasing, as the few cannerymen who salt these small fish have abandoned the business, being unable to secure a market, the Indians are the principal consumers of that fish.

I am pleased to report most favourably on the work of the cruiser *Falcon*. We have made a considerable number of seizures this season. We have a large area of water to patrol and it is difficult for her to cover all the ground with entire satisfaction.

Referring to the different portions of my district, I may say that Rivers inlet is in the most satisfactory condition at the present time, the run, as I said before, having been phenomenal, the spawning grounds are not trespassed upon by the Indians in any way, they obtain their winter supply of food in a legitimate manner, and there is comparatively no waste of salmon. This season all the streams have been densely populated with spawning salmon.

There have been few infringements of the regulations. With regard to the Skeena, I am pleased to be able to report a fair run of salmon, and that the officers sent up by the department to prevent the Indians from barricading the streams, report said streams to be full of spawning salmon, waters that have been depopulated for many years can be seen swarming with salmon; this has been the most gratifying to all interested in the welfare of the Skeena.

The Naas also has had about an average run. The obstruction on Majiarden lake at the head of Naas, has been fully reported upon to the department, and although the work will be costly, still we hope this winter to have it removed, throwing open an immense area of spawning ground to salmon that are practically a total loss to the Naas river.

With regard to the halibut fisheries in my district, I may say that the banks in Hecate straits are the most prolific, and after careful consideration and with every opportunity for personal observation, I have no hesitation in stating that there has been no decrease in the catch this season, the fish in the aggregate may run lighter

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in weight, and therefore a little smaller, but as compared with last season's catch this year shows most satisfactory returns.

Inspector E. G. Taylor, of Nanaimo, B.C., says:—The fisheries carried on in my division, including, as it does, the whole of Vancouver island and the adjacent islands and inlets on the mainland, are of the most varied character, and the past year has witnessed quite a number of new developments. Trap-nets for salmon which were permitted for the first time last year, have been more extensively used this year, and with very satisfactory results, many of the nets between Jordan river and Beecher bay have made large catches of salmon, chiefly sockeye, on their way to Puget Sound, and Straits of Georgia; no doubt a large proportion of these fish would have found their way into the U. S. traps which so thickly stud the shore of Washington state, though some schools appear to have reached the Fraser river by a route which avoided the American, and seems to have not touched the Canadian traps. It is difficult to define the course these schools (especially the enormous late run of sockeye) took when on their way to the Fraser river. Spring salmon, cohoes and other kinds, especially the first named, were also taken, and all were fresh from the sea, and in condition and quality could not be surpassed.

The large cannery built by Messrs. Todd & Sons, of Victoria, at Esquimalt, is one of the finest in the province, and other well equipped canneries owned by the Alberni Canning Company, and the Clayoquot Sound Canning Company are operated on the west coast at Uchucklesit and Clayoquot. The catch of salmon at the canneries is not affected by the large run of fish to the Fraser river; an ordinary catch was secured by both these canneries this year.

It is of vital importance that the natural spawning grounds of the salmon be protected and every effort put forth in this direction, and also in the erection of small hatcheries for the artificial propagation of salmon in this district will benefit the Canadian canneries only.

The dog salmon fishing was carried on to a great extent this year, a large number of fishermen were engaged in this industry on the east and west coast of Vancouver island, and in many of the adjacent inlets on the mainland. I have no doubt that when the returns are received this will prove to be a banner year in the history of the dog salmon fishing. The dog salmon are nearly all exported to the Japanese markets, and this is rapidly becoming a very valuable industry. The whaling enterprise of Captain Balcom, at Sechart, Barclay sound, has made a promising beginning, a great field is open for this remunerative industry. Sulphur bottoms, hump backs and many kinds of smaller whales are abundant all around the island.

Many of the men in my district take part in the halibut fishing, which in the more northern waters is said to be declining somewhat, though productive banks no doubt exist which have not yet been discovered. The halibut banks along the west coast of Vancouver island need more protection from the inroads of the poacher.

The herring industry promises to develop into a fishery of very great value and importance, the coastal waters of my district are probably the most productive in the world. The shoals of herring running in solid masses into such harbours and bays

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as Nanaimo, Pender, Effingham and Uchucklesit. Mr. Cowie's visit last year aroused attention, and his return to Vancouver island this year with a staff of fish-curing experts and an experienced cooper is likely to stimulate our herring fishery firms to put up Scottish cured herring of the highest grade.

The existing uncertainty as to the leasing of oyster beds for the purpose of planting and cultivation has hampered this industry in recent years, it is to be hoped that the matter may be put on a satisfactory basis before long. The department's action in sending Captain Kemp in charge of a shipment of eastern oysters was a step of great moment to the industry.

Crabs and prawns are plentiful in the waters of my district, but they are fished irregularly and principally to supply the local markets.

The lakes and rivers of Vancouver island also abound in sporting fish, and the past season has been one of the best for the angler.

FISHERIES PROTECTION SERVICE.

The report of the Fisheries Protection Service will be found in Appendix No. 13 of this publication.

The cruiser fleet this year (1905) consisted of the *Canada*, *La Canadienne*, *Curlew*, *Petrel*, *Osprey* and *Constance*, in the Maritime Provinces, the *Vigilant* in Lake Erie, and the *Kestrel* and *Falcon* in the British Columbia waters. The above were assisted by four sea-going steam launches in the patrolling of the Atlantic coast.

The seizure of a couple of fishing vessels and numerous nets are reported by the captain of the *Vigilant*.

No less than 107 United States fishing vessels took *modus vivendi* licenses, the fees of which amounted to \$12,813.

The long list of 257 United States vessels using our ports, published in this protection report, demonstrate their importance to these foreign fishermen.

FISHERIES INTELLIGENCE BUREAU.

Detailed reports from the principal reporting stations dispersed on the Atlantic coast re the movements and capture of sea-fishes concludes Appendix No. 13. They are prepared by Officer Mackerrow, of the Halifax agency.

OTTAWA FISHERIES EXHIBIT OR MUSEUM.

A list of the specimens exhibited at Fisheries Museum has been prepared by the curator, Mr. Andrew Halket. This report, forming Appendix No. 14 of this volume, will be found of interest to persons seeking information on that subject.

THE STAFF.

The outside staff of this branch of the department is more numerous than would appear at first thought, amounting to 890 employees, subdivided as follows:—

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Twenty inspectors of fisheries, 110 overseers of fisheries with magisterial powers *ex officio*, and 444 guardians temporarily employed to assist the overseers in the protection of fish. The officers in charge of the thirty fish breeding establishments with their permanent assistants aggregate over seventy employees, not including many other persons employed for shorter periods during the busy seasons. The officers and crew of our fleet of cruisers aggregate 246 men.

A complete list of all these different services is given in Appendix No. 15, concluding this report.

A list of the lobster packers of the Maritime Provinces is also published.

THE BEHRING SEA QUESTION AND PELAGIC SEALING.

Early in the year Canada was informed of a proposal by the United States government that Great Britain should agree to a prohibition of killing seals at sea during August and September, and that the United States government would, in compensation therefor, consent that such hunting should be permitted during May and June instead.

Canada's position was that the regulations under which pelagic sealing is at present proceeding are those fixed by the award of the Paris Arbitration in 1893, and which came in force in 1894. Since that time the United States government have been persistently endeavouring to bring about changes therein because it was found that the sealers could still pursue their calling, which, it was at first thought would be sufficiently hampered by the regulations to cause a voluntary relinquishment thereof.

By the terms of the Paris Award it was provided that the regulations should be submitted to a re-examination every five years, with a view to their amendment, if, in the opinion of both governments, such amendment were deemed necessary. When at the expiration of the first term, a conference of experts of Great Britain, Canada and the United States took place at Washington, the attitude of the United States government towards pelagic sealing rendered it impossible to reach any change in the existing regulations, which indeed was not sought by the Canadian government at that time, except in the direction of a relaxation of the restrictions.

In their advocacy of the present suggestion the United States government reiterated the argument as to the starvation of nursing pups, owing to the killing of female seals by pelagic sealers, but that field had been frequently exploited and argued and has formed the subject of much expert observation on the islands.

On this point it was regarded sufficient to refer to the joint statement containing the findings of the conference of experts of Great Britain, Canada, and the United States held at Washington in 1897, whose sole duty it was, after close and concerted observation on the seal islands, to find the facts as they existed from a natural history standpoint.

These are the last authentic data of which Great Britain or Canada has any knowledge regarding that branch of the question, and it established that many thousands

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of seal pups, alleged to have died of starvation by reason of their mothers being killed at sea by pelagic sealers, had succumbed to the attack of a parasitic worm known as *uncinaria*, at a period of the year before the pelagic sealers operations could possibly have been felt on the islands, because they had not at that date begun their Behring sea season.

The next five years at which a re-examination of the Paris regulations might have been considered, occurred in 1903; but as the United States government had all along been seeking to compass the entire suppression of pelagic sealing, and as Canada held that industry was already hampered by a maximum amount of restriction to permit its continuance, nothing was done.

The third term of five years contemplated by the arbitrators will not have been completed until 1908, when according to their findings the two governments may consider the necessity, if any, for a change in the regulations. That time, however, is two years hence, and although Canada was justified in taking the ground that no suggestion of change in the regulations should be considered or discussed at least until the expiration of that term, the practical effect of the specific proposal made by the United States, which, at first sight, might appear to the uninitiated as a reasonable compromise in substituting two spring for two summer months operation, was pointed out.

The Paris regulations provide a close season during which the hunting of seals is prohibited within the limits covered by the Award. This close season embraces the months of May, June and July, and the United States proposed that the sealers should be permitted to kill seals during the two months—May and June—providing they relinquished the months of August and September.

This was regarded as a further restriction on the industry which would effectually destroy the sealing business.

There is no sealing during May and June, because the seals at that time are travelling towards Behring Sea, constantly changing their positions and rendering it impossible to secure even fair catches, whereas the most valuable sealing months of the season are August and September in Behring Sea. Hence the substitution of May and June for August and September, instead of affording a compensating equivalent, would involve the relinquishment of the two most profitable months in the year for two of the most unprofitable ones.

Moreover, the industry even as at present conducted, necessitates arrangements for the retention of expert assistance during May and June by paying wages for these two idle months, which expedient would be utterly out of the question under the conditions which would follow acceptance of the proposal.

As July would still be a close season month, the arrangement would effectually terminate pelagic sealing on April 30, since the months of May and June as previously explained would be practically useless, even if tried.

The proposal not being one which could meet with the approval of Canada, its rejection as conflicting with the interests of Canadians now operating under the terms of the Paris Award was recommended.

The fleet which cleared from Victoria to participate in the pelagic sealing industry during 1905, numbered 18 against 23 for 1904, and 26 for 1903. It represented an aggregate tonnage of 1,233 tons register, with crews comprising 188 white men and 309 Indian hunters, employing 55 boats and 149 canoes.

During the season's sealing operations, beginning in January and ending with the month of September, these vessels so distributed their work that twelve of them participated in the North American coast fishery, against 19 in 1904; seventeen in the Behring Sea fishery, the same number as in 1904, and five on the Asiatic side and in the vicinity of the Russian Seal islands off the Kamtchatkan coast against 6 in 1904.

One of the 18 vessels which cleared, the *Fawn*, belonging to the Victoria Sealing Company, is reported missing, and it is feared that she must be lost with all hands on board.

The catch of the 17 vessels which returned to Victoria is summarized as follows:—

North American coast catch.....	2,779
Behring Sea catch....	8,576
Asiatic catch.....	1,651
<hr/>	
Total.....	13,006

To this should be added the catch of the Indians along the inshores of British Columbia, amounting this year to only 792 skins against 1,501 last year, when the total yield of the fur seal fishery by Canadians on the North Pacific ocean will aggregate 13,793 skins against 14,646 in 1904, and 14,701 in 1903.

A comparison of the catch shows very favourably for the present season since the 17 vessels engaged in 1905 secured an average catch of 765 skins against an average of 626 skins taken by the 21 vessels which operated in 1904.

PROVINCIAL AND DOMINION JURISDICTION.

While the question of provincial and Dominion administration in regard to fisheries is still *sub judice* and some working arrangement by mutual consent will, it is hoped, be arrived at within a reasonable time, it is not opportune to make any lengthy reference to the matter. When, however, so important an organization as the American Fisheries Society has publicly stated its views that the Federal Government at Washington should have sole and supreme jurisdiction over the fisheries of the great lakes and interstate waters between the various states, it needs no argument to show the immense advantages that must accrue if in the Dominion Government should be finally vested the control, regulation and licensing of all commercial fisheries in Canada. The influential society referred to declared that such undisputed authority, if

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possessed by the Federal Government, 'would certainly solve the problem of poaching, for under control of the government the fishermen would have to respect the laws of both countries, instead of trying to comply with laws of different states and international poaching, it would remove all confusion as to the limits of the conditions attached to licenses, the overlapping of prohibited seasons when fishing may not be carried on, the ineffective surveillance and detection of violations which obtains at present owing to confusion as to the limits of the two authorities, and would in every way conduce to the prosperity, preservation and healthy expansion of the various great fishing industries in inland waters and along the sea-coast.

I have the honour to be, sir,

Your obedient servant,

F. GOURDEAU, Lt.-Col.,

Deputy Minister of Marine and Fisheries.

SPECIAL
APPENDED REPORTS

BY

PROFESSOR E. E. PRINCE, F.R.S., CANADA

Dominion Commissioner of Fisheries

I. THE WHALING INDUSTRY AND THE CETACEA OF CANADA.

II. THE PROGRESS OF FISH CULTURE IN CANADA.

III. THE SCOTTISH HERRING CURING EXPERIMENT IN CANADA.

By Mr. JOHN J. COWIE, Lossiemouth, Scotland

(With Explanatory Preface by Professor PRINCE)

1905

SPECIAL APPENDED REPORTS

THE WHALING INDUSTRY AND THE CETACEA OF CANADA.

By PROFESSOR E. E. PRINCE, DOMINION COMMISSIONER OF FISHERIES, OTTAWA.

Public attention has been so prominently directed to the valuable whaling resources of Canada, and so many inquiries are being made upon the subject that a brief report upon our whales and upon the possibilities of our whale industries could not be more opportune than at present.

On the Pacific, as well as on the Atlantic shores of Canada projects are now afoot for the prosecution of whale hunting, and the utilization of whale economic products.

No less than seventeen kinds of the fifty species described by naturalists have been recorded in the waters of Canada, yet the whale fishery has never been developed to any adequate extent in the maritime provinces, in British Columbia or on our Arctic shores. The rich whaling grounds of the extreme northern waters, Hudson bay, the vicinity of Franklin Land, and the seas off the Mackenzie river estuary, though unsurpassed for their abundance of the most valuable of these huge monsters of the deep, have been exploited chiefly by European and United States whalers, and with the exception of Gaspé, and a few scattered centres in the Gulf of St. Lawrence, no residents in Canada have taken any considerable part in that most remarkable and profitable of old maritime pursuits, whale hunting. In 1895 I called public attention to these priceless products of our Arctic and other seas, and pointed to the startling fact that in Canadian waters were the last resorts of the Arctic baleen whale, the walrus, and other valuable marine creatures. In an account which I prepared for the Canadian handbook of the British Association for the Advancement of Science, 1897, I made passing reference to possible whaling industries, especially the utilization of the beluga or white whale and various species, in the Gulf of St. Lawrence and other readily accessible resorts of these large marine mammals.

During the last seven years whaling has been pursued with unwonted energy in Newfoundland owing to the enterprise of firms stimulated or controlled by United States citizens. From 1,000 to as many as 1,200* whales have been killed annually in recent years in the waters surrounding Britain's oldest colony, and as I stated in an address last year†, 'the companies carrying on the enterprise with adequate means and methods of utilization, have paid dividends of from 40 to 50 per cent per annum, while other firms prepared to only partially utilize the numerous products of the whale, or confining their operations to the manufacture of whale oil only, have been able to easily pay 6 to 7 per cent, besides adding substantially to their reserve funds each season. Some Norwegian concerns, it may be added, have paid as much as 300 to 400 per cent a few years ago. These enormous returns are due to the fact that the most recent methods of killing allow of the taking of the large and very numerous

† Lit. and Sci. Society of Ottawa, Session 1904-5.

*The number given for 1905 is 1,200 whales, and for 1904 about 1,000 in Newfoundland waters.

inferior whales, which were formerly neglected, while the adoption of mechanical reduction processes secures the utilization not only of the blubber and whalebone, but of the flesh, blood, massive viscera, &c., formerly cast away to be disposed of by voracious sharks, seals, &c. Now, however, not a scrap of these materials is wasted, and to the by-products is largely due the vastly increased profits referred to.

Of the sea's living inhabitants, regarded as marketable commodities, the whale tribe includes, not only the largest, but by far the most valuable examples. It is therefore hardly credible, in view of the fact that no country on the face of the globe has whaling areas to compare with those of Canada, that the whales should have been largely ignored by us, or rather, been left for other countries to profit by, thus bestowing on them immense wealth, which could have been retained by our own people.

PRESENT AND PAST ABUNDANCE IN CANADA.

From the earliest times, travellers and explorers voyaging in Canadian seas have noted the remarkable abundance of various species of whales in the Atlantic and Pacific, and especially the northern waters.

Jacques Cartier and his crew in 1535 saw more whales in the St. Lawrence estuary near Anticosti than they could remember ever having seen before. John Davis in 1587 met a great many whales in August off the Labrador coast, and later travellers, such as Charlevoix, described multitudes of these great creatures off Matane and Tadoussac, nearly 200 miles west of Anticosti.

Occasionally specimens wander much further west, as in October, 1833, when a whalebone whale ascended as far as Montreal, a distance of over 600 miles from the Gulf, 80 or 100 miles of which is fresh water, and being pursued by a number of boats, was at last taken at Boucherville. In 1901 a small orqual 33 feet long passed up the St. Lawrence to Montreal, where it was seen for some time by thousands of citizens disporting itself opposite the city below which it was stranded and died.

From the sixteenth century onward hundreds of French, Basque and English vessels mainly bent on taking cod, captured also seals, walruses, and whales. Of 300 or 400 of these vessels referred to by Richard Hakluyt in 1578, no fewer than 30 of them were Biscayan whalers. Whales were found off the New England coast, indeed hump-backs (*Megaptera*) occurred off the Bermudas, but authorities have raised doubts as to the identity of reported baleen whales, in the Gulf of St. Lawrence and south, with the right whale of Greenland and the Arctic seas. Eschricht went fully into the matter and favours the view that it was a different baleen whale. 'The existence, however, of a right-whale,' he says, 'with comparatively short bone in the seas round Newfoundland, does not, of course preclude the appearance of the Greenland whale in the same sea.' From these waters it appears now to be entirely absent. The territorial waters of British Columbia have been long regarded as famous resorts of valuable whales. Explorers in past times make constant reference to that important fact. "Hitherto," as I recently stated in an exhaustive article on British Columbia fisheries in the annual number of the 'Pacific Fisherman' (Seattle, January, 1906), the schools of whales have been of no value to the province whatever, but the action of the Dominion Government, by its encouragement of whale factories on modern principles will create in a few years a vast and remunerative industry all along the coast. A trip from Victoria to the Naas river suffices to show how plentiful these valuable creatures are, as whales may be seen 'blowing' in schools of from two to twenty individuals, all the way from the Straits of Georgia north."

EARLY EXTERMINATION POSSIBLE.

Whaling is, however, a doomed industry unless restraints are placed on foreign poaching, and wise measures taken without delay to secure the perpetuity of the fishery as a permanent and paying enterprise of Canada. It is no doubt true that the

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money returns of whaling shows an increase in recent years, but this is partly due to the disproportionate rise in the value of certain whale products, and partly to frenzied efforts by whalers, a 'last great onslaught' much like the final attack in a prolonged struggle, when in spite of the reduced numbers of the belligerents the number of killed is yet greater than at earlier stages in the campaign.* Whales must succumb for two principal reasons just as the herds of wild elephants are practically extinct in Africa. First, their numbers must always have been limited, owing to their size, habits, peculiar food and slow growth. If no enemy of the whale tribe existed these huge creatures could never have increased like deer or rabbits, their power of surviving unfavourable conditions of life being so small. Secondly, their low rate of increase—one calf or young whale being usually produced at birth in probably every third year. No animals produce so few young and reach maturity so slowly.

Professor W. C. McIntosh in his widely-known work, 'The Resources of the Sea,' which on the whole favours the inexhaustibility of the fish supply in the oceans of the world, says of the whale tribe: 'The resources of the sea, however, are limited in the case of the large air breathing forms pursued by man, such as the right-whale or bow-head, which has steadily decreased in numbers during the present century. The reckless slaughter of the young whales accompanying their dams, a sure method of capturing the unfortunate and solicitous mothers, has intensified the effect of this eager chase by various nations for whalebone and oil. Producing but a single young one at a birth, this huge and harmless mammal will probably disappear unless measures are taken for its preservation. The same may be said of other whalebone whales which are pursued for profit, and of the dugong and manatee, the oil, skin, and skeletons of which are of value. The huge Pacific grey whale (*Rhachinectes glaucus*) of the lagoons of the California coast, has, indeed, been entirely destroyed by man.

The effect of the slaughter of hundreds of the ca'ing whale (*Globiocephalus melas*) is not so clear, but the xiphioid whales captured in the north seas for their oil are in great danger. In no species has the inability of recuperation from constant attacks been better illustrated than in the sperm whale, the numbers of which have been seriously diminished within recent times.' The captures in former days are truly astonishing to contemplate. Professor Lilljeborg, of Upsala, an eminent authority, speaks of their slaughter by hundreds of thousands in past centuries, and we have reliable records that the Dutch whalers in Davis Straits and other Arctic hunting grounds killed 6,896 huge baleen whales between 1719 and 1778. While Professor Eschricht recorded the killing of 3,391 of these valuable creatures in four years (1827 to 1830), and added, 'the persecution was carried on with great success, and very extensively, until the profits...began to diminish, and the fishing trade to dwindle away, till it reached its present (1861) comparatively unimportant state. If we ask what influence this violent war of extermination, continued during more than a century, has had upon it, we see that the whale until this day appears within precisely the same limits in which it was found at the beginning of the persecution, but in numbers so diminished that the fishing at least in the ordinary method. will hardly repay the trouble and expenses attending it, the whales, therefore, are in peculiar danger of extermination under modern destructive and systematic methods, if unrestricted.

* WHALES ARE NOT FISH.

All the whale tribe are commercially valuable, indeed, increasingly so; but they are also profoundly interesting both to the scientific man and the ordinary observer. They are the last of the leviathans which flourished in the seas of past geological ages before the advent of their arch-enemy, man. They are so fish-like that even

* The seventeen North Atlantic U.S. sperm whaling vessels brought 9,650 barrels of oil last season, the largest returns for many years, taking into account the number of boats engaged.

well-informed persons speak of them as fishes, and the professional whalers always refer to them as 'fish' and their calling as 'whale fishing,' although it would be as correct to call a beaver, or a moose, a fish, and speak of beaver or moose fishing, because these animals so frequently resort to the water. Not one of the chief characteristics of the fish tribe applies to the whales except their boat-like form, their paddle-like hands or flippers, and their double-fluked tail. Fishes are somewhat cold blooded, usually clothed with scales, breathe by gills, produce in the majority of species, eggs, never possess hair, and do not require to come to the surface of the water to breathe. Whales on the contrary have warm, indeed very hot blood, their skin is smooth and pliable, and some parts in early life are hairy*, while their young are born alive, and suckled like calves, and resort to the water's surface at short intervals, of necessity in order to empty and refill their capacious lungs. When whales are stranded they perish miserably, not owing to the clogging of the gills, as in the case of a fish, but from injury to their unwieldy bodies and from hunger, and most probably terror, as they are with one or two notable exceptions most timid creatures.

HUGE DIMENSIONS OF WHALES.

Their monstrous dimensions are an impressive feature. In length they range from four or five feet (the porpoises of the Amazon and Ganges—fresh water whales—for example) to 30 or 40 feet, up to 80, 90 or 100 feet. No doubt there has been much exaggeration in descriptions of the size of whales, but on reliable authority one was seen at close quarters several times this year (1905) off Barclay Sound, Vancouver Island, which was estimated to be not less than 110 feet long. It was a sulphur-bottom whale (*Balaenoptera sulfureus*). In the fall of 1903 the whaling steamer *Humber* harpooned a finner or rorqual of the same length (110 feet) in the North Atlantic, and it towed the steamer at the rate of seven miles an hour, though the engines were reversed at full speed, creating a retrograde movement equal to eight miles per hour, and the whale did not weaken for twenty-nine hours. At the shoulder, one of these monsters will measure 12 to 15 feet; the tail, which is horizontal, measures 18 to 20 feet across, and the flipper or hands are from 7 to 15 feet long—the last measurement being that of the hump-back (*Megaptera boops* or *longimana*). Professor Owen gave in his book on 'The Skeleton and Teeth,' a figure of a rorqual (*Balaenoptera musculus*) 96 feet long, while Scoresby's well known whale stranded at North Berwick was 78 feet long and weighed 140 tons, though there are records of whales whose total weight approached 250 tons. The Bowheads or Arctic right-whales are not so large as the less valuable rorquals, though they range from 50 to 60 feet and may even be 70 feet in length. The monstrous mammoth is diminutive when compared with the largest whales. Thus the huge mammoth or hairy elephant in the Imperial Museum at St. Petersburg is 9 feet 3 inches high and about 10 feet long, while the still finer example, in the Chicago Museum, is 9 feet 6 inches high, and nearly 12 feet in longitudinal measurement. A whale was captured 8 or 9 years ago on the Scottish coast, with a harpoon in its body which had been 50 years out of use, thus indicating that their great age is in keeping with their huge size.

BREATHING OR SPOUTING OF WHALES.

The method of breathing or spouting as it is called, is so remarkable in whales and so generally misunderstood that a brief reference to it is necessary. Artists so frequently picture whales in the act of throwing up lofty fountains of water, that it is necessary to point out the impossibility of any whale breathing out water. These creatures breathe out air, their lungs being of enormous size and extending

* A few stiff yellow hairs occur at the tip of both jaws and near the blow-hole; and in toothed whales hair occurs only along the upper lips.

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much further back than in most air-breathing creatures. The organs are broad and not divided into lobes, but their substance is so elastic that any air contained in them can be completely squeezed out, and each lung becomes, as it were, a solid mass. Thus easily emptied, the lungs are as easily filled, as one well known authority pointed out, so closely do the air cells open into each other, that 'by blowing into one branch of the trachea, not only the part to which it immediately goes, but the whole lungs are filled.' The inspiratory muscles and the diaphragm are greatly strengthened and the latter has a very small tendon. Elastic tissue abounds in the lungs and makes the expiration process easy. Whales are compelled to come to the surface of the sea to breathe. If detained under water too long they die. They are drowned, precisely as a human being is drowned, by asphyxiation and water-choked air passages. The nostril or blow-hole (in some cases two nostrils or blow-holes) are situated on the top of the long ponderous snout, the breathing being called 'spouting,' because the breath is spasmodically forced out like a jet of vapour resembling the snorting of a hard-driven horse, but on a gigantic scale. Each spout is followed by a sigh like that of the piston of a mighty Cornish engine. The huge finners or rorquals, the porpoises, belugas, and others send forth one column, but the Arctic whale, called the bowhead or right-whale, and the sperm whale or cachalot, force two high columns into the air. As the well-known Arctic authority, Dr. Brown, has said:—

This 'blowing,' so familiar a feature in the cetaceans, but especially in the right whales, is quite analogous to the breathing of the higher mammals, and the 'blow-holes' are the perfect analogues of the nostrils. It is most erroneously stated that the whale ejects water from the 'blow-holes.' I have been many times only a few feet from the whale when 'blowing,' and, though purposely observing it, could never see that it ejected from its nostrils anything but the ordinary breath, a fact which might have almost been deduced from analogy. In the Arctic air this breath is generally condensed, and falls upon those close at hand in the form of a dense spray, which may have led seamen to suppose that this vapour was originally ejected in the form of water. Occasionally when the whale blows, just as it is rising out of or sinking in the sea, a little of the superincumbent water may be ejected upwards by the column of breath. When the whale is wounded in the lungs, or in any of the blood vessels supplying them, blood, as might be expected, is ejected in the death-throes along with the breath. When the whaler sees his prey 'spouting red,' he concludes that its end is not far distant, for it is then mortally wounded.

Some of the whales spout eight or nine times and then go below the surface for half an hour. The monstrous sperm whale spouts with regularity for three seconds and then a ten seconds interval follows before the 'spouts' recommence. The intervals appear to vary, some whales spouting every thirty seconds, some every minute and a-half, while Professor Alex. Macalister observed a *Megaptera* rising regularly every two minutes.

Whales have been known to remain down for half an hour—or even an hour and a-half, a most remarkable thing for an air-breathing animal with warm blood to do. We know that the pearl-oyster divers after long experience and training can remain under water for five minutes, but not longer; and the whales are able to keep below the surface for lengthened periods owing, it is considered, to an enormous development of arteries around the spinal cord, especially in the region of the ribs, where the ribs are articulated to the backbone, also inside the vertebral column, the basis cranii, and other places, these *relia mirabilia*, of which the details are given on the next page, being present not only as devices for storing blood, but for repeating the heart's rhythmic impetus, as we find is the case in other gigantic creatures, the elephant for instance possessing considerable arterial plexuses near the base of the hind limbs and in other parts of its huge body, these acting as supplementary hearts.*

* In the Sloths which creep in a reversed posture *relia* are present at the base of the limbs.

HEART AND BLOOD CIRCULATION.

The heart and blood circulation are also remarkable. The pumping organ is large even for such large creatures as whales, the main artery or aorta where it leaves the heart being of the diameter of a man's waist, in the great porpoises, while the heart itself, as Professor Owen stated, 'may be more than a yard in transverse diameter and not much less in length,' while its apex or pointed end is often rounded or indeed flattened and sometimes partly divided, though far less so than in the dugongs or Indian sea-cows in which it is deeply cleft. When a whale is injured or harpooned it bleeds profusely, so abundant is the blood, that the sea becomes reddened for a considerable area. At each pulsation of the heart 10 to 15 gallons of blood are driven through the body, this amount per stroke being 240 times the quantity driven at each heart-beat in man. The huge heart, capacious arteries and rich vascular system are necessary to contain the enormous quantity of blood in the whale's system, but a very marvellous provision exists in addition for the storage of the fluid. In the head a network of arteries, supplied by the inner and outer carotids, is found round the base of the skull, while a similar enormous plexus or network extends into the canal of the vertebral column*. Dr. Robert Knox found inside the skull a blood plexus under the *dura mater*, which constituted no less than one-half of the contents of the cranium, and similar coiled masses of arteries lining the sides of the chest close to the ribs. These convoluted intercostal arteries are not branching, but simply complexly folded as a garden hose-pipe might be coiled up so that as Professor Owen stated, 'they can be unravelled and traced to a great length without sending off branches or changing the calibre.' These astonishing blood reservoirs no doubt fulfil several functions, keeping the neural axis and nerve system supplied with oxygenated blood and retaining a quantity of the same during the lengthy periods of submersion, when the act of inspiration and purification of the blood is impossible.

WHALE'S MILK.

Whales give birth to living young, usually one calf, though in very rare instances twins have been observed. On the Finmarken shore (Norway) ten or twelve years ago a female whale was noticed with two calves, but until then no such event had been observed since 1865. Whalers so rarely have noted such an occurrence that it must be unusual. Like cattle, the calf is fed with milk which the female whale produces in quantity. The fluid is very dense, like soft tallow, of a yellowish white colour and possessing an offensive fishy odour. The mammary glands are two long narrow bodies, below the blubber, situated on the under side of the body, not on the breast, but a long way back. Each has a main tube or duct, and terminates in a teat, concealed in a groove, which no doubt opens widely so that the teat projects for the nourishment of the calf. Professor Owen thought that the muscles near the two milk glands had little to do with the pressure and ejection of the milk, this being accomplished, he thought, by the great 'pressure of the surrounding water... upon the extended surface of the mammary gland, hence we may readily conceive that when the nipple is grasped by the mouth of the young, and the pressure removed by the retraction of the tongue, the milk will be expelled in a copious stream by means of the surrounding pressure alone, independently of muscular aid.*

Prominence has recently been given to a proposal to save and utilize the fluid from the two huge lacteal glands of female whales, several barrels being obtainable

*Knox pointed out in 1834 that the blood plexus filled three-fourths of the spinal canal and surrounded the spinal marrow and nerves, and was two inches in thickness in some places. Dr. John Hunter had described this system in 1787, Dr. Barclay (in the beluga) in 1795, and Bresebet still later, in 1834.

* Anat. of Vertebrates, Vol. III., p. 778.

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from one whale, but this is a revival of a very old proposal made by Professor William Macdonald, a venerable teacher in the University of St. Andrews half a century ago. He said that as whales give milk like cows and goats, a large specimen might be secured by a long chain near such a city as Edinburgh, and supply milk daily to the city. A quantity of this milk, which I examined when it was being described by Professor W. C. McIntosh and analysed by Professor Thomas Purdie, did not appear very inviting though its nutritive qualities were very high. The Greenlanders have long regarded whales' milk as an esteemed dainty.

The calf of the various species of whales and porpoises is disproportionately large, newly-born specimens being recorded, which measured 16 feet in length, while a calf still suckling was captured which measured about 20 feet in length—it was a baleen or Arctic whale. In some museums there are specimens (unborn whales) from 2 to 3½ or even 8½ feet long, but at birth the size is extraordinarily large as stated. From evidence obtained by scientists the whale is held to produce young every second year, not annually.

The mother whale has a strong attachment for her young, and often rushes to certain death to rescue or defend her offspring. Whalers are, indeed, accustomed to secure the calf first, as they can rely upon the mother before long approaching and affording an easy opportunity of capture.

WHALES NOT FEROCIOUS.

The whale tribe as a whole are not 'fierce, destructive monsters,' as Michael Drayton described them, and even the popular idea that they are hideous and uncouth beyond description is far from the truth. The late Professor Blackie once likened the great Forth Bridge in Scotland to a whale, because of its extreme ugliness, but no one can watch the movements of a porpoise or a whale gliding with ease and grace through the water, without realizing their perfect adaptability to the conditions of life to which they are subject. Sailors' stories of the ferocity of whales are almost wholly groundless, although a harpooned specimen in its agony will bound and rush about with terrific speed and power. By nature they are gentle and even timid, like most animals of huge size. Newspaper correspondents, ignorant of the true nature of whales, publish for their eager gaping readers glaring paragraphs of a sensational nature. Not long ago a British Columbia newspaper published an account of whales, by some writer not very thoroughly posted in the habits of these monsters, stating that the rorqual is the fiercest of all the whale tribe, a statement almost as true as that the lamb is the fiercest of all the sheep tribe! As an example, I clipped from a paper, a few years ago, the following paragraph, which is a type of newspaper notices published frequently:—

'DESPERATE ENCOUNTER WITH WHALES.—Despatches from San Francisco received at Queenstown yesterday contain intelligence of the arrival at San Francisco of the whaling barque *John Winthrop* on October 20, when the captain reported that on September 23 a large whale was sighted, and two boats were sent to capture it. As soon as the whale was struck by harpoons it wrecked both the boats, killing three men and breaking the legs of two others by striking them with its tail. The seamen were thrown into the sea, but were rescued by a third boat from the ship.'

Even the ancients knew better, and amongst many narratives referring to these creatures the delightful account of Pliny the younger, telling of Hippo's enamoured dolphin, is an example. The whale's enormous muscular powers enable it to roll, leap and plunge, with terrific force when its body is pierced by sharp harpoons. It will writhe and lash the waves into foam by the tremendous contortions of its mighty frame in its agony. But the affectionate and harmless nature of whales generally is remarkable, and instances are not uncommon which show that they have a sociability and an attachment to each other, stronger perhaps than that of any other living

mammals. Cases are on record of whales escaping from an imprisoned school which had been driven through a narrow gully into an inclosed harbour, and those escaping after lingering about in the open sea looking out for their comrades, returned to rejoin their unfortunate companions and were slaughtered by the whalers—evidently declining all opportunity of escaping again and leaving the imprisoned school. In one case, a large bull-whale escaped and swam out to sea, turning round continually as if to induce his companions to follow. Backward and forward he went, while the men were butchering those impounded in the bay, and, at length, seeing that all his efforts were in vain, he swiftly swam back to the imprisoned whales, rejoined them and allowed himself to be killed with the rest. The docility and intelligence of some of the great whales prompted an old writer to picture tamed and trained whales harnessed to vessels and speeding across the seas from port to port. A British naval commander wrote to a London paper a few years ago letters recounting his experiences with whales, and amongst other things, he said:—

‘One afternoon two of these lovely creatures passed under us amidships. They spouted a little distance off and dived. While they were doing so they looked like two brown hills sporting about with the water breaking all gently round them—not being a poet I cannot describe their grace—but I have realized that a thing of beauty is a joy for ever through that scene, though it contained only two whales, a ship and the ocean. But to come to matter of fact; suppose they had dived when we came in their way, so as to be level with our bottom, no one would have heard of us again. What a pity it is that we cannot build a whale with a ram, or something to work like one, or use them as we do the elephants, for war purposes.

‘On the coast of Africa, many years ago, large numbers of black whales kept round me (I was in a thirty-two foot boat) for two days and a night. Their wash often gave us an additional roll. I was going to fire at one, but the coxswain beckoned me not to, as we should be sent to splinters if I did. They were not so large as the mid-Atlantics, nor did they impress me so much with their grandeur. However, this little epistle will prove that they are rather friendly than spiteful. In my youth I remember a large Atlantic fellow swimming alongside a ship I was in, often right under the swinging boom.’

When H.M.S. *Herald* visited Moreton bay, some years ago, the natives entreated the tars not to shoot the small whales abounding in the locality. They were comparatively tame, and when a signal was given to them by the natives they drove schools of fish ashore. The natives struck the water violently with their paddles and, it is affirmed, the whales did their work like Scottish sheep dogs. Mr. Lee, who had charge of the famous English aquarium at Brighton, had porpoises on many occasions in the great tanks, and I myself spent much time watching their lively and graceful movements in the sea-water aquaria. Mr. Lee cherished the idea that, like Captain Salvin’s trained cormorants, whales and porpoises could be taught to drive fish upon Brighton Beach, and thus supply the daily requirements of the aquarium.

They are playful in the highest degree and their colossal gambols are impressive to behold. Every one knows how porpoises and larger members of the whale order will race with steamers when crossing the ocean at high speed; but in the late fall they are especially lively and even the most monstrous whales will leap entirely out of the water with a peculiarly wriggling or worm-like movement, ascending perpendicularly high above the surface of the sea, and then helplessly falling back into the water.

In the North sea, and in the Atlantic, I have on many occasions watched these marvellous gambols, the sea being tossed into mountains of white foam in the vicinity of the leaping monsters. Recently when off Cape Mudge, and in the neighbourhood of Rivers Inlet, British Columbia,* I saw mighty humpbacks and rorquals ascend

* During my official trip with Captain Holmes Newcombe in December last.

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perpendicularly out of the water, so near to the Dominion cruiser *Kestrel* that I could see the 'reeves' upon their under surface, and white streams of water coursing down the whale's huge sides, like torrents down a precipitous mountain. The dark shining skin and the peculiar bodily vibrations of the whale, and its slender form viewed in front or from the dorsum, recalled a gigantic leech springing out of the sea. Time after time whales will make these great leaps, aided by the powerful horizontally-placed tail. Sheer animal spirits and playfulness will account for some of these gymnastics, and late in the fall the female pursued by the male, will act in this manner, but it is a spectacle that once seen can never be forgotten by the spectator.

THEIR ENORMOUS PROPELLING POWER.

Their enormous locomotive power is due to the muscularity and form of the tail. Their ordinary rate of progression is believed to be 12 to 14 miles an hour, and Sir Wm. Turner, of Edinburgh, has stated that to carry a whale of 74 tons through the sea at a rate of 12 miles an hour a force of 145 horse power is necessary.

There are few spectacles more weird and impressive than that of a large whale noiselessly moving through calm water producing only gentle ripples, as he rises and puffs out a cloud of dense vapour, or again in the rolling waters of a rough sea suddenly heaving above the waves, like a moving island, exposing his massive smooth sides for a moment, and sinking again into the trough of the sea, a spectacle seen by me more than once off the west coast of Ireland.

My first personal experience of the kind was in 1885, and on subsequent occasions, I have been in the close company of some of the largest of existing whales. My fishery duties had taken me out with the Peterhead (Scotland) herring fleet, and all day long our crew—the crew of one of the largest Buchan yawls—had been on the look-out for 'farls,' really the old Norse name 'hval,' another form of the name being the German 'Walfisch.' Just as day faded we saw white clouds rising here and there from the water, like jets of steam or puffs of mist. Some shot up very near, i.e., within 100 or 150 yards, and very soon we saw huge backs, and monster spreading tails, all around, indeed, we seemed to be surrounded by the gently gliding monsters. To a novice the sight was somewhat terrifying; but it filled our fishing crew with delight. It was to them the surest sign of herring shoals. Each puff or spout was accompanied by a sigh like the gasping of a great engine's piston. One very large whale rose not more than 3 or 4 yards from the bows of the boat where I stood, and I could see his great length—far larger than the ship in which I was sailing. It was so close that I could distinctly see the eye, bright and intelligent, and small for so huge a creature, like the eye of an ox, but brighter and even gentler in expression. Its shoulders rose above the waves like a large dark mound, and after giving a mighty puff, it wheeled over so that I saw the small back fin followed by the flattened and wide-spreading tail.

FISHERMEN OPPOSE WHALE INDUSTRY.

When in the midst of 'farls' the North sea herring boats, as an established fact, usually make very large catches of fish, hence the recent proposals to operate whaling factories, and slaughter the whales has aroused intense opposition from the Scottish fishermen, and in a similar way caused a stirring controversy in Norway some time ago and more recently in Newfoundland. His Majesty's secretary for Scotland regarded the feeling as so weighty that he authorized a special commission to investigate the probable effects of a whaling industry in the waters off the north of Scotland. The main complaints were two, and it was upon these that the committee reported in July, 1904, viz.:—

1. That the treatment of the carcasses has been the cause of nuisance and danger to public health, and even to navigation; and

2. That it will injure the herring fishing.

As to the first question, the conclusion at which the committee arrived was that under proper regulations and inspection the industry is not open to objection on the grounds of nuisance or danger to public health. Regarding the second question, the committee were of opinion that while unrestricted whaling might be a possible danger to the herring industry, they were not satisfied that valid reasons had been brought forward for the total prohibition of whaling. They were of opinion that total prohibition would have consequences more dangerous to the herring fishing industry than regulated and limited whaling. They recommend that whaling should not be entirely suppressed, but should be regulated and limited. In the whole matter they came to the conclusion that the new whaling industry ought to be permitted to continue, but only under limitations and regulations, and that with such limitations and regulations it would not be a danger to the herring industry.

Such proportions did the antagonistic feeling attain in Norway, that the government had to appoint a commission of inquiry to determine whether this was so or not, and, though the commission's report was rather against the popular view, the agitation remained unquelled and last year the Norwegian parliament had to enact a law forbidding the prosecution of the whale fishery on its own coast or within its own territorial waters for a period of ten years, in order to satisfy popular clamor, the 'whalery' owners whose property and vested interests were thus summarily treated, being indemnified in part for their losses. In Newfoundland the past two years a similar agitation has been in progress, and the Legislature was deluged with petitions praying for action by the Government in the premises for fishing, a close time, a buying-out of the factories, and a regulating of the industry being among the solutions proposed. But the unexpected decline of the fishery, collapsing from excessive development, resulting in bankruptcy and loss to many firms rendered less urgent any action. The fishermen held the opinion that the scarcity of caplin, so valuable in attracting inshore the valuable schools of cod, and the decrease in the squid, the best of baits, were due to whaling operations and the killing off of whales. Recent reports state that public discussions held in St. Johns did not bear out the fishermen's views of the matter and the resulting conclusion showed that whaling was not detrimental to fishing interests. It was argued that the idea of whales affecting the movements of caplin and squid was delusive. The whale does not eat squid at all, yet squid has been as scarce as caplin. If caplin leave the shore because whales are scarce what causes squid to leave?

TIMIDITY OF WHALES.

They are so inquisitive that they will approach vessels without fear, indeed like the seal tribe they will run great risks in order to satisfy their curiosity and will often come great distances to gambol round a steamer or sailing boat. But they are also timid and easily alarmed. They have a habit, the largest whales especially, of floating quietly without any movement near the sea's surface in quiet weather. Just the mound-like nose or the protruding back may be seen; but long before the ordinary steamer can approach the creature appears to wake up, dive down and with a flip of its mighty tail descend beyond danger. The well known hunter Captain Campbell McNab, of the lower St. Lawrence, turned the timidity of the whale tribe to account in a plan for capturing belugas or white whales in the Gulf of St. Lawrence. He fixed up vibrating rods, the effect of which was so unfamiliar that the belugas were terrified. I quote from an account published two or three years ago before Mr. McNab's death:—

'Sportsmen who have visited the Saguenay will remember how many of these great white cetaceans may be seen disporting themselves upon the surface of the St. Lawrence, near the mouth of the former mentioned river. They appear like shapeless masses of blubber as their arched backs show from time to time above the surface. They are doubtless attracted to the mouth of the Saguenay by the large number of salmon which

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enter the river throughout the season. As each porpoise is supposed to eat from one to three barrels of fish per day, it is comparatively easy to form some idea of the fearful ravages which they make among the salmon, the herring and the cod. They are largely gregarious, though they frequently hunt their prey in couples. Mr. McNab has often peered over the edge of an overhanging rock to watch them catching salmon at the mouth of a stream, and sometimes a long distance up a river where they follow their prey. They chase a salmon into a shallow and then approach it from either side. The salmon appears unable to move, as if paralysed by fear. If he attempts to run from one of his pursuers he falls into the open mouth of the other. The porpoise is equally expert in fishing for the slippery eel. Mr. McNab opened one of these animals the other day and found more than forty eels in its stomach. To prevent their wriggling, and probably also to aid digestion, the porpoise cracks the skull of the eel between his teeth before swallowing it.

The porpoises are captured by being imprisoned at low tide on the shoals, over which they have journeyed when the tide was high, in pursuit of their prey. Hitherto the difficulty has been to find any barrier strong enough to retain such enormously heavy beasts, and so many of them together as are sometimes inclosed. Mr. McNab has made the interesting discovery that the enormous nets through which they often broke are not necessary to hold back the porpoises. They are unable to stand the slightest vibration in the water, and so all that the hunter now finds necessary is to fasten a long, thin pole like a fishing rod, to a stake in the mouth of the stream, the bay or the estuary within which it is desired to retain the porpoises. They remain to be stranded and killed upon the shallows rather than venture past the vibrating rod. This sensitiveness is believed to have its seat in the ear of the animal, which has so small an opening that it might almost have been made with a pin. For years McNab has held firmly to this theory only to be laughed at for his pains. He has now proved it beyond peradventure.'

CLASSIFICATION AND ANATOMY.

The order of whales or cetacea has been divided into three sub-orders, viz.:—

- (1) *Mystacocete*, Right-whales, Finners and Hump-backs.
- (2) *Denticete*, Sperm-whales, Beluga, Porpoises.
- (3) *Zeuglodontia*, extinct whales with long snouts and a neck and three kinds of teeth.

The skeleton of the large whales is very massive, the skull being as large as a good-sized breakfast table, excepting in the right-whales in which the skull measures from 17 to 20 feet in length and weighs about a ton. The total weight of the skull and jaw-bones of a whale, about 50 feet long as given by Professor W. H. Flower, is over 3,000 lbs., or more than $1\frac{1}{2}$ tons. The ribs are several inches in diameter and 10 to 15 feet long and their number has long been regarded as so constant, that specimens not agreeing in the number of ribs are regarded as not belonging to the same species. The number of ribs and vertebræ is held to be constant in the different species. Thus the Arctic right-whale has 13 pairs of ribs, whereas the Japanese and the southern right-whale have 15 pairs of ribs. Naturalists do not regard them therefore as belonging to the same species. Of the fin-back whales, which many authorities have been inclined to collect together under one species; *Balænoptera rostrata*, the pike-whale, has 11 pairs of ribs, whereas *B. musculus*, the rorqual, has 15 pairs, and the rorqual called *B. gigas*, by Professor Eschricht, the greatest authority on the subject, has 14 pairs. On the other hand, *B. laticeps*, which is possibly of the same species as *B. robusta* of Lilljiborg, for in both the lower jaws are less curved than in the pike-whale or the great rorqual, the number of ribs is 13 pairs. A Danish school-

master, Mr. Thomson, studied and figured a 'killer' whale, which had 12 ribs on one side and 11 ribs on the other, 'a difference,' as Professor Eschricht points out, 'that seems to denote that the number is not quite constant.' The number of bones in the spinal column is held to be strictly constant, there being 65 bones in the rorqual and 48 in the Arctic right-whale. The bones of the neck are united together, so that the whales cannot twist or turn their heads. The flippers or fore limbs are really hands, exhibiting a thumb and four fingers, but in the rorqual and in *Pontoporia* the thumb is absent. A common sheath of muscle and skin incloses them, so that they appear like a fin; but the arm, wrist, and manus, or hand, are all present. There are in many whales rudimental hind-limbs. In a 64-foot right-whale, the pair of bones representing the pelvic girdle are 16 inches long, and there are often nodules of bone representing the free limb or leg. The arched bones, often 12 to 15 feet or more in length, which have been familiar objects as gate-posts, &c., are the two huge mandibles, which bear massive lips of a remarkable form in the whalebone-whales. The maxillæ and premaxillæ above, and the curved mandibles below, define a mouth cavity of vast capacity, in some species not less than 200 cubic feet. The floor is formed by the soft cushion-like tongue, which is very full of oil and is attached over most of its lower surface to the floor of the mouth. In toothed whales teeth may be present in the lower jaw only, and are always conical, single-fanged, and numerous*.

WHALEBONE AND BLUBBER DESCRIBED.

In toothless whales the mouth is armed with massive plates of whalebone attached to the transverse folds of the palatine mucous membrane. These plates are wide at their attachment, but narrow towards the tip, and on the edge, turned towards the tongue, a strong fringe of bristles exists. The plates are from 5 to 12 or 15 feet long, and 12 inches broad, at the widest part. The plates are set in a series one behind the other, from the front to the back of the mouth, on each side. There are 300 to 400 large plates on each side, and as Prof. Eschricht said, 'their number is really the same in the new-born as in the full-grown individual,' and he added, 'the foremost and hindmost laminæ of both sets must grow very slowly, for not only in a 22 feet long female, but even in a 44 feet long quite full grown male, these laminæ were very short, the smallest blades being only 2 inches long.' The longest blades may reach a length of 15 feet, but it has been found that while the female whale as a rule is larger than the male, the largest blades of whalebone occur in the male—and the blades continue to grow even after the body has reached its full size. The whalebone of rorquals and humpbacks is very different and commercially far inferior to right-whale whalebone. It is shorter—often paler in colour and of a less elastic, drier nature. Whalebone exhibits two portions, when minutely examined, a cortical outer layer, and an interior medullary part consisting of horny tubes in which soft filaments extend. In the rorquals these filaments extend very far into the medullary tissue, which is thus hollowed out, but in the right-whale the filaments are very short, and the horny tubes are hollow only near the base of the blade, hence the whalebone is more compact and is of far finer structure. A full-grown Arctic whale will yield about a ton or a ton and a-half of whalebone, which is valued at about \$3,000 per ton. During last season (1904-5) a San Francisco whaler captured six bow-heads or Arctic whales, from which 12,000 lbs. of whalebone were taken, a very remunerative result, apart from the blubber and oil which are of some value, though the oil realizes only half the price which it brought 40 years ago. Whalebone in drying loses about half its weight, but it is possible that were the blades, especially those of the dry crisp nature of the rorqual's whalebone, soaked for a time in dilute glue or 'size,' the weight and elasticity might be increased, and the commercial quality improved.†

* The extinct *Zeuglodon*s had two-fanged teeth with serrated crowns.

† The late Frank Buckland said, 'The hairs of baleen are united one to the other by a kind of animal glue. By boiling and hammering I find the baleen can be reduced to a state of hair.'

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The uses of whalebone are remarkable. It is no longer used as a supporting frame work in ladies' attire or as 'ribs' in umbrellas, but out of it artificial feathers of exquisite lightness and elasticity, and wigs or 'toupees' of a most lasting character, are made. Shredded into fine filaments it is woven in with the silk fibres in the manufacture of the finest French silk fabrics, imparting buoyancy and elasticity to the rich materials, and greatly enhancing their value. Underneath the smooth dark epidermis occurs, in all the whale tribe, a dense layer of fatty tissue or blubber, an immensely thickened 'panniculus adiposus,' which forms a blanket around the body, retaining heat in the midst of the icy Arctic waters. This layer of fat is present in all mammals excepting the hare (*Lepus*); and in the bear family (*Ursidæ*) it is very thick, especially before winter hibernation. Usually the epidermis can be easily detached from the fatty layer beneath, but in the whales, porpoises, &c., the network of strong fibres, in which the oily matter is stored, is closely attached to the outer skin, and sharp knives or spades are used to separate it. The blubber may range from an inch, in the porpoises, to 5 or 6 inches in the rorquals, or 5 to 8 or 10 inches, but in the right whales it is 14 or 15 inches or more, indeed the famous Scottish whaler Captain David Gray wrote to Frank Buckland respecting one large whale taken by him, 'his blubber measured 22 inches thick along the back.' The best quality of oil tried out of whale's blubber is used for soap-making, ointments and the like, while the inferior grades are sold to tanners, very little is now used for illumination purposes, but chiefly for oiling machinery, &c. It is of special value in the manufacture of jute, as a lubricant in working the fibre. Hence Dundee whaling and Dundee jute industries were mutually associated.

While the toothed whales live upon fish, squid, and other marine creatures of some size, certain species like the killer (*Orca*) attacking seals and even larger whales, the great whalebone whales are wholly non-predaceous. The huge mouth of the right-whale or the rorqual takes in a mass of water full of floating molluscs, shrimps, jelly fishes, and in Arctic waters, pteropods and heteropods, and on closing the jaws and elevating the great flabby tongue, the contents of the mouth are pressed against the sieve-like arrangement of whalebone plates, which act as a strainer. The water is squeezed between the bristly plates, but every particle of solid matter is retained and swallowed. The rorquals and shoals of cetaceans which follow the herring are, as Dr. Harry Goodsir pointed out to Dr. Robt. Knox, feeding on the same food as the herring themselves, viz., the minute copepods, &c., known to Scottish fishermen as 'maïdre' or 'maïther,' as Knox himself had surmised in 1843, never having found any fish in the stomachs of large whales he had examined.

SPERM WHALES.

Of the toothed whales the cachalot or sperm-whale is the most valuable*. It is unfrequent in the more northerly waters, indeed it is absent from the Polar seas, and prefers more temperate and equatorial latitudes. It is occasionally seen off the British Isles, a large one being recorded in 1769 in the Firth of Forth, and a male specimen 56 feet long was cast ashore in 1825 off the Yorkshire coast, the skeleton of which is preserved at Burton Constable, and a 70 feet example off Caithnesshire in August, 1863, but reliable records of its occurrence in Canadian waters are rare. That it inhabits our seas both on the Pacific and Atlantic is well-known, and a fine specimen was taken two years ago off the Newfoundland coast, but unfortunately it was not recognized as a sperm-whale until a great part of the valuable spermaceti had been wasted. The head is enormous, occupying one-third of the length of the body. Its huge size is due to the great chamber or 'case' which may be called the forehead of the whale. It is a network of fibrous bands inside, and the interspaces are filled

* *Callianthus simus*, Owen and *Kogia Floweri*; Gill, the latter only 12 feet in length, are close allies of *Physeter macrocephalus*, the common cachalot or sperm-whale.

with a clear watery fluid which crystallizes into white spermaceti—a semi-transparent, brittle lamellar material long used for making the best wax candles. It is regarded as a cetylate of oxide of cetylene, and after crystallization leaves a clear yellow oil as residue. The thick blubber yields sperm oil. The Caithness specimen already mentioned, produced 1,620 gallons of oil and blubber. On each side of the lower jaw occur 22 or more beautiful ivory teeth, and they are used for tearing up squids and cuttle-fish upon which it largely feeds. The purpose of the enormous head is not easy to decide, unless it be to act as a buffer and thus save the brain and skull from danger of concussion. The sperm-whale cannot see directly in front, and one which by accident ascended a narrow arm of the sea in Scotland across which a bridge had been built, caught its huge snout against the bridge, and carried the structure bodily away on the top of its head. They often bump against vessels out at sea. Sir J. E. Alexander tells of a Nantucket whaling captain in the south Pacific, who sent three boats after a school of sperm-whales. The mate's boat was struck by one of the whales and he had to return to the ship for repairs. While engaged in repairs, a sperm-whale, 85 feet long, broke water 20 yards from the ship on the weather-bow. The creature must have been moving at the rate of about three knots an hour, and the ship at nearly the same rate, when he struck the bows of the vessel just forward of her chains. The collision of two such mighty masses caused the ship to tremble like a leaf. Incensed by the pain of the blow, the whale made a second rush, and stove the vessel in by a tremendous bump from his head, so that the vessel soon sank, and out of 25 of a crew only 5 survived to return home.

AMBERGRIS.

Ambergris is the most valuable product of the sperm-whale. It is a gray speckled waxy material, very buoyant and of a peculiar musky odour. The Hindoos knew of the properties of ambergris over a thousand years ago and were aware that the sperm-whale produced it. In the middle ages wondrous properties were attributed to it, indeed it was said to float up from the bottom of the sea. It is probably a product of disease and often contains the fragments of cuttle-fish, the horny jaws, &c., though whether the accumulation of disintegrated cuttle-bone, which consists of calcareous and glutinous matter, in the intestine of the whale, originates this intestinal concretion is uncertain. Ambergris has a musky odour so peculiar that it has never been artificially imitated, and its amazing property of exalting any perfume in which it is placed makes it invaluable. The minutest grain makes itself perceived in the most fragrant perfumes. It is probably the most costly product produced upon our planet, and never realises less than \$5 per ounce; indeed it usually sells for \$10 per ounce. A vessel bound for Portland, Maine, picked up a lump which weighed over 100 lbs., and sold it for over \$16,000, and four or five years ago a piece found floating in the Bay of Fundy must have been worth \$5,000 or \$10,000; but the fisherman who found it took it to Digby, where it was boiled for nearly a week to convert it into soap, and the fragment that remained was identified by a chemist, who gave a handsome price for it.

In December last the New York *Tribune* published a report from Seattle, Washington State, that a whaler just returned from north Pacific waters had found that a substance which the crew had obtained from a sperm-whale and used for greasing their boots, oars, masts, &c., was ambergris. They threw away more than they used, but kept a 5-oz. bottle full for future use. In December a local druggist offered \$73 for the contents of the bottle to the great astonishment of the possessor, who said that some quantity could be obtained in Arctic waters, but none of the men knew what it was or realized its value other than as a lubricant.

Perfume manufacturers are on the lookout for ambergris, which is of such immense value and utility to them.

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Just as amber was once thought to be the congealed tears of sea-gulls, and as pearls are produced to alleviate the pain of the injured pearl-mussel, so the precious ambergris is possibly a result of disease in the huge cachalot.

THE FINBACK, HUMPBAC, GRAMPUS, &C.

For many centuries the whaling industry was dependent upon the right whales of the Arctic and Antarctic, and upon the sperm whales, which are wanderers in every sea. The rorquals, sulphur-bottoms or silver-bottoms, humpbacks, grampuses and smaller kinds were not hunted, as they were in some ways more dangerous to pursue and were of much inferior value.

In recent years the industry has so revolutionized its methods that every species of whale and porpoise is now of value, hence a brief reference to other whales is desirable.

Of the huge fin-back whales there are probably at least seven species, the largest being *Balænoptera sulfureus*, Cope, a Pacific whale probably the same as the Atlantic sulphur bottom *B. borealis* sometimes called *Sibbaldius borealis*, as both these whales are known to have reached a length of 110 feet.

A despatch from St. John's, Newfoundland, dated October 11, 1903, stated that the whaling steamer 'Humber' harpooned a whale 110 feet long on October 5, 1903, off Cape Spear, a specimen whose size ranks amongst the largest on record.

The sharp-nosed rorqual or fin-back *B. physalus* is the common whale of the Atlantic and German ocean. It has yellowish or pale whalebone and an acuminate snout; but other fin-backs, such as *B. gigas*, *B. musculus*, the Razor-back, *B. rostrata*, the pike whale; *B. laticeps*, the herring whale; and *B. sibbaldii* are all characterized by a similarity of form and habit. They are quicker in their movements than other large whales, and unlike the right-whale they do not rush to the bottom or 'sound' when struck, but spurt forward with terrific speed, pulling out the whole harpoon line at a single rush, and necessitating the cutting of the rope in order to save the whaling boat and crew. The head and dorsal parts are of a black or uniform dark colour; but the under surface is paler and often grayish white. All alike exhibit the deeply furrowed throat, the under parts from the chin to a point midway along the body being grooved by curious 'reeves' or cuts, the purpose of which is obscure. They appear as if narrow strips of skin $1\frac{1}{2}$ or 2 inches wide had been cut with a sharp knife and removed from the whale leaving over 100 sharply defined grooves or furrows upon the throat and chin. I counted 98 of these furrows in one huge finner, and they possibly aid in enlarging the vast capacity of the mouth when feeding—opening and closing like the folds of a fan, or they may facilitate rapid progression, as the rorquals and humpbacks are swift swimmers and possess these 'reeves.' The grampuses, porpoises, sperm-whales, and right-whales, have a smooth unfurrowed throat, being destitute of these 'reeves.' Of the hump-backs there appears to be really one species, though the four species determined by Dr. Gray were for long accepted. Professor Eschricht held that there was one *Megaptera* only, viz.: *M. boops*—the so-called *M. longimana* being a variety only. The Japanese have a hump-back whale with long flippers—one-third of the length of the body—but they identify it with *M. boops*, and the same view respecting Temminck's *M. antarctica* is no doubt correct. The *Megaptera* with gleaming white pectoral flippers, and deeply scalloped inner margin appears to differ from *M. boops* and has been distinguished as *M. longimana*; but its osteology and structural features generally are apparently the same as *M. boops*.

The killer whale *Orca gladiator*, Lacep, is a familiar cetacean with its high fin protruding from the water. It is distinguished by a white oval spot above the eye and by the irregular mass of white along its under surface. The late Professor Moseley observed in the South Polar circle large numbers of *Orca* with a large white saddle patch behind the dorsal fin and a white blotch on each side in front of the pectoral

flippers. This is identical with the Japanese *Orca* usually classed with *Orca gladiator*. The lesser killer *Orca schlegelii*, has the white spot slightly further behind the eye, and Prof. Lilljeborg describes a patch behind the pectoral flipper and a purple streak behind the high dorsal. The killer whales are very frequently called grampuses; but the name grampus best applies to *Grampus griseus*, Cuv., which is of a slate gray colour with white markings. These whales range from 18 to 30 feet in length, the latter dimensions being those of an *Orca gladiator* which I saw captured at St. Andrews, in Scotland, in 1884. The ca'aing whale, black fish, or pilot whale,* called the 'grind whale' in the Faroes, congregates in large schools—indeed in August, 1878, 657 of these creatures were killed in three hours at Thonhaven. They are driven in like a flock of sheep, and in the Faroes in 35 years, 1843 to 1878, over 6,000 of these creatures were slaughtered valued at over \$100,000. They abound in the Gulf of St. Lawrence, and have been frequently killed off Prince Edward Island. They are of a rich deep black colour excepting a white spot under the throat and along the under surface. The skin is smooth 'like oiled silk' and the pectoral flippers are very long and narrow, a 22 feet pilot whale having flippers over 5 feet long. The most striking feature is the blunt rounded head, the forehead being very prominent, hence it is known in some localities as the round-headed porpoise. The head is short and the jaws extremely so—the upper projecting a little beyond the lower. The dorsal fin is over a foot high and about a yard along its bases. The bottle-nosed dolphins, the white beluga and the porpoise, owing to their less commercial importance demand no detailed notice, nor is the curious Bottlehead, *Hyperoodon rostratus*, of any value at present though it occurs in both the Atlantic and Pacific. These inferior species will no doubt be turned to account with the development of the most recent methods of utilizing the whales. Of no commercial value, but interesting in such a review of whales and whaling as that here given, is the existence of certain species of fresh-water whales, including the small susu (*Platanista gangetica*) only 3 or 4 feet long, and nearly blind, the eyes being practically closed. It inhabits the Ganges. *Inia* and *Pontoporia* are also small toothed whales found in South American rivers, more especially the Amazon. They all possess numerous small teeth in the upper and lower jaws. The narwhal, or sea unicorn, is a whale which loses its teeth with the exception of the upper-jaw canine on the left side. This left upper tooth grows out as a long spirally marked ivory tusk 5 to 7 feet, or more, long. Its use is very obscure. The narwhal (*Monodon monoceros*) reaches a length of 22 to 24 feet. The ivory tusk as a rule is present in the male on the left side, though occasionally on the right, and very rarely in the female—one female on record, however, possessed two very long tusks.

RECENT WHALING METHODS.

The old methods of pursuing the whales far from shore, of harpooning them and lancing them from small whaling boats, of towing them to the large whaler, securing the whale bone, removing the endless strip of blubber as the carcass lay suspended alongside the vessel, have been supplanted. Formerly the carcass, the entrails, most of the skeleton and all the involved products were wasted, the blubber was preserved in casks in a rancid and offensive condition, indeed the methods were as wasteful as they were dangerous and disagreeable. Excepting in the remote Arctic seas the whaling is now done from a centre—a group of buildings on shore called the whaling station, and operations are, as a rule, completed within 20 or 30 miles from shore. The modern harpoon is six feet long of malleable iron with an anchor-like arrangement near the pointed head. Four hinged barbs lie flush with the shaft, but these spring out as soon as the harpoon forces itself into the whale's body. The conical bomb-head explodes by means of a time fuse and by tearing the whale's vitals, and shock to its system stuns and kills it. The bomb-harpoon is fired from a short cannon—moving on a swivel and pedestal, supported on the bows of the boat, a small well-built steamer, or small clipper, 100 tons burden, twin screw, and of 12 knots per hour speed. The vessels are specially built,

* *Globicephalus melas*.

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and thoroughly braced to resist concussion with infuriated whales in case the harpoon is not effective, and able to turn in their own length to dodge a rushing whale. If the whale is fatally struck a hole is bored into the carcass and air is pumped into the stomach converting it into a huge floating buoy, a plug is inserted in the whale, and a man in a boat is left alongside, while the steamer goes off in quest of other whales.* 20 or 30 whales may be captured in a week by this rapid and ready method, and over 250 large whales have been taken by one whaler in a season.

CANADIAN WHALING LICENSES.

When the various captures are towed to the whaling station, the utmost despatch characterises the processes to follow. All the products of the whale should be handled in as fresh a condition as possible. If allowed to decay, the offensive odour and dangerous pollution resulting from such enormous masses of putrid organic matter as the carcasses of monster whales, are such that a whaling station would be a menace to the public health and a nuisance to a widespread community.

Hence the Dominion Government following on the very excellent lines adopted in Newfoundland requires parties to apply for a license before entering on any whaling scheme in Canada, and amongst other conditions lays down that:—

‘(a) No license shall be issued until the site of the factory has been approved by the Minister of Marine and Fisheries, and no site shall be approved within fifty miles of any other whale factory, or in such proximity to any inhabited place or places as, in the opinion of the Minister of Marine and Fisheries, may cause any danger or detriment to the public health;

‘(b) No license shall be issued until the applicant therefor has given assurances to the Minister of Marine and Fisheries, of a satisfactory nature, that he (the applicant) is in a position to convert any whale captured into commercial products within twenty-four hours of the landing of such whale, and that he is also in a position to conduct his whale factory and business in such a manner that no noxious or deleterious matter will be introduced into any public waters, bays, creeks, rivers or harbours;

‘(c) No license shall be issued until the applicant has filed with the Minister of Marine and Fisheries plans and specifications of the machinery to be contained in the proposed factory, and particulars of the reduction process; and the machinery proposed to be used shall be of a kind already proved efficient for such purposes, and of the most approved type theretofore used in the whaling industry.

‘3. No license shall be for a period exceeding nine years: Provided always that the Governor in Council may renew a license in favour of the licensee from time to time for periods of nine years, upon receipt of an application, in writing, for a renewal, six months previously to the termination of the current period.

‘4. The holder of any such license shall not operate more than one whaling steamer in connection with the whale factory under license.

‘5. The license shall become void and forfeited unless the factory named therein is erected, equipped and working within two years from the date of the issue of the license.

A number of subsidiary conditions are included in the Act of which the foregoing is an extract (4 Edward III., chap 13, August, 1904):—

FLENSING AND UTILIZING THE VARIOUS PRODUCTS.

When a whale has been towed to the licensed whaling station it is brought alongside an inclined floating slip. From a winch on the slip is sent out a steel line, which

* From time immemorial the Eskimo tribes have inflated captured whales, a feature which is quite new in recent whale hunting methods.

is attached to the animal, and by steam power it is hauled out of the sea. The flensing process is then begun, which consists in stripping off the fat with knives specially adapted for the purpose. Two or more men are usually detailed specially for this work, and are known as 'flensers.' They raise the fat in strips, attach the chain from the winch, and the whole slip, forty or fifty feet long, by eight or ten in width, is torn off. The fat averages from four to six inches or more in depth. After the fat is stripped the whale is opened and the intestinal fat removed. The long strips after removal are placed on the landing, where a number of men engage in cutting it into strips of from ten to twelve inches. This is then placed in a chopper, operated by steam, which minces it finely and carries it to the elevator, from whence it is taken up to the boilers. Here men are at work stirring the fat, who keep it agitated while the steam heater is rendering it into oil. After a few hours the oil is drawn off, left to cool, then barreled, weighed, and made ready for shipment.

The whalebone, which is very valuable, is removed whole, and each plate separated from the other by means of a sharp knife. The bone is then placed in a solution of soda, scraped and placed to dry in the same manner that codfish is treated; after drying it is stored ready for marketing.

A more important and, withal, more intricate method is the manufacturing of the carcasses into guano, and the chemical treatment of whale and bone oil, in order that it may equal in value and quality the oil of the fat. For many years the Norwegians had extracted the oil from the meat and bone, but it was almost valueless, the dark colour preventing a ready or remunerative sale. After the whale is stripped of all its fat it is turned over to be processed and torn by winches into small pieces, which are made still smaller by means of axes and saws, and then thrown into tanks into which water has been placed. Steam is then turned on, and chemicals used to hasten dissolution. After a certain time the oil, of a very dark colour, is dipped off and placed into tanks; the blubber from these tanks is drawn off into other tanks standing under, and the process recommences. After a sufficient quantity of the solid waste residue of the tanks has been obtained, it is conveyed to the driers, which are long revolving heated cylinders, converting the material into a dark brown earthy material, which needs little further treatment to make the most valuable kind of guano.

WHALE BEEF.

The choicer fleshy portions of the whale's carcass are converted into 'beef,' and after being smoked and prepared are as good as much of the smoked meat on sale in the American markets. A canned whale-beef industry is also being inaugurated with great promise. The Indians of British Columbia have long used whale flesh as a dainty food, and in Iceland, Norway and other countries it has been a recognized dish. Dr. Robert Knox, in 1834, with some of his Edinburgh medical students, tried a steak of young roqual or fin-back whale, grilled on a grid-iron, but they did not hesitate to express their preference for a steak of West Highland beef. Sir J. E. Alexander described whale hunting by Gaspé boats, in July, 1849, near Seven Islands Bay, adjacent to Anticosti. After a most exciting chase his vessel came alongside the whaler, and they watched the process of removing the blubber by means of sharp spades used by a number of men standing upon the floating body of the victim. One of the pectoral flippers was removed and required the strength of four able-bodied men with powerful tackle to hoist on board. The whaling captain had a large piece of flesh like an immense round of beef cut off, and presented it to Sir J. E. Alexander, who tells us that 'during the succeeding part of this voyage we breakfasted and dined frequently off the portion of the whale which fell to our share of the spoil, the lean of which was really excellent, and when cut into slices and broiled was indistinguishable from tender beef-steak; the fat

* Most of the details given are from the Newfoundland official reports and from papers kindly supplied by Dr. Rismuller.

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I did not admire, the smell of it bringing forcibly to my recollection the odour of oil-lamps with which the darkness used to be rendered visible in the city of Dublin in my younger days.' As it has been found possible to remove the offensive odour and flavour of eggs which are not bad, but slightly 'turned,' by a recent method of chemical treatment, so the removal of the odour and taste of whale-meat affected by the fatty matter of the whale has proved feasible. Whale flesh can now be prepared without any trace of the characteristic whale-oil flavour.

Mr. Cathcart Wason, representing Orkney and Shetland in the Imperial House of Commons, London, has placed on record his views as to the uses of whale flesh. He says:—

'Whale meat is just like coarse beef, and it makes a most valuable material for making dog biscuits. What cannot be used that way can be turned into valuable manure. It all depends, however, upon the location where the amphibian is denized. Whale meat from the Arctic whale is quite a palatable diet, and the Newfoundlanders smoke the product for human consumption. It is gaining some headway in the States.'

LEATHER AND FIBRE WARE.

The intestines, which are of enormous length and of great diameter, have been tanned and prepared as leather. This leather is soft and smooth as kid, but lacks the necessary fibre and strength for many purposes. For artistic leather work it is admirable, its fine grain and texture, and the readiness with which it can be dyed all the most delicate art-tints makes it specially adapted for the purpose mentioned. The leather made from the huge lips of the whale is coarser and stronger, and could be used no doubt in the manufacture of boots, leather straps and bands, &c. Still more interesting is the 'crockeryware' prepared from the chemically macerated bones, and pressed into various shapes, in appropriate moulds, is a more enduring material than vegetable fibre, indeed whale crockeryware is so tough and resistant that heat, hot water and rough usage do not affect it; 'it can be damaged' says a recent writer 'only by smashing it with an axe.' Attempts have been made to extract glue products; but so far with only fair success. A most tenacious gummy product has been obtained, which will draw out endlessly into fine threads, so that they can be spun like fine silk fibre; but a strong adhesive hardening glue is difficult to extract owing no doubt to some residue of oil which remains in whale products unless subjected to extreme chemical treatment.

WHALE MIGRATIONS.

The movements of whales from season to season are not erratic, but quite regular, like the migrations of large game such as the caribou and the musk-ox. The Arctic right-whales cling to the margins of the ice fields, but they migrate each season with regularity, and the whalers can tell almost to a day when the schools should appear in certain localities. Incessant whaling may cause them to divert their course, and it may be that in the north the great whales have moved nearer the polar waters and forsaken for a time their accustomed haunts, just as the Newfoundland schools, apart from their decrease, owing to excessive killing, have moved into the mouth of the St. Lawrence, and from the Straits of Bellisle almost to Tadousac have been seen recently in unwonted numbers.

LIMITS TO THE INDUSTRY.

In view of the fact that the whaling industry as pursued on modern lines is a comparatively untried industry in Canada, there is a great field open for enterprise. Cau-

* Salmon Fishing in Canada, p. 261.

tion and the wise policy of conservation, which it has been always attempted to carry out, will secure the permanence of Canadian whaling on the Atlantic and Pacific coasts, as it has been established that 'whaling,' like every other fishery, may more than any other marine industry, can be unfailingly played out. There are, for example, no less than eighteen whaling plants in Newfoundland valued at probably nearly \$2,000,000, and it is becoming apparent that the supply of whales is insufficient to keep so many separate enterprises in operation. The great dividends made by the pioneers of the modern whaling in the Gulf of St. Lawrence and the Atlantic outside, incited inexperienced parties to enter upon operations on an extensive scale. The Massachusetts commissioners, who recently visited the Newfoundland factories, reported that the eighteen expensive plants fitted up could not get sufficient whales to keep half the number going, and they did not hesitate to say that the industry, which is only of few years' standing, is already overdone.

A prominent Halifax journal reviewed last year the Atlantic whaling industry, and said that an acute stage had been reached in Newfoundland, and the immense profits made at an earlier stage had not continued. 'Last year (1904),' says the newspaper referred to, 'there were eleven whaling steamers at work in our waters, whose total catch was 1,270 fish, or an average of 115, whereas in 1903 the four steamers then engaged killed 859 fish, or an average of 215. When it is considered, too, that Norwegian competition was brisk, and that as a consequence, whale oil has dropped in price just one-half of what it was three years ago, it is easy to see that the money-making possibilities of the industry are greatly diminished. Eleven steamers and crews and fourteen whale factories and gangs of workmen have had to be maintained out of a catch only half as large again as four ships of the previous year, while the price of the commercial products of the venture has declined so much that it is doubtful if the aggregate gross earnings of 1904 have exceeded those of 1903. Hence, it is scarcely surprising that only three of the eight whaling companies in working form last year have paid any dividend, two paying but 6 per cent each and the third, which operated under exceptionally fortunate conditions, 15 per cent. The others either lost money or realized such small profits that to pay a dividend was impossible. Some other companies will be in operation this season and with more steamers at work the natural tendency will be to lessen the kill per ship, so that unless the price of oil, bone and other products from the cetaceans substantially advances it is difficult to see where all of these concerns are to make their profits.'

The abundance of whales in the estuary of the St. Lawrence and along the shores of Canada from Gaspé to Grand Manan, is indisputable. Indeed, their numbers appear to have increased owing to the hunting operations along the Newfoundland coast. Like big game on land they move to new areas if harassed and disturbed. But excessive hunting and utilization will bring even our prolific supply to an end. The inshore waters of our Pacific sea-board abound in whales, hump-backs, rorquals, silver-bottoms, killers, &c., but unless the annual catch be wisely limited the industry will only be a success for a few seasons.

As a Newfoundland writer, at the close of the year, stated '1906 will open unfavourably for the modern whaling industry initiated in this colony a few years ago, and now that a similar enterprise has been set on foot at Seven Islands, in the St. Lawrence and at Victoria, on the Pacific coast, it is interesting to note the vicissitudes which have befallen the undertaking here and which have caused its ill-fortune to assume the aspect of a national catastrophe.

In 1898 the new pursuit was introduced here from Norway and the pioneer company started operations, the feasibility of the venture being seconded by nearly everybody. Then after a year or two, when it was seen to be a paying speculation, opinion altered completely and everybody wanted to engage in it. The result was that applications for the organizing of whaling concerns were recorded to the number of thirty-five, though only seventeen were really started. This was the total in being last year,

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and when all these steamers began fishing in waters where formally only two or three plied, it is easy to understand that misfortunes came fast and furious upon them.'

PROTECTIVE LAWS NECESSARY.

The Canadian enterprises under proper limitations, and if not overdone, have great promise. The first factory at Seven Islands, west of Anticosti, on the Quebec shore, commenced operations in August and found whales plentiful. Indeed, before the end of October the factory had handled nearly seventy large whales, while on the B. C. coast, the whaling factory operated at Sechart, Barkley sound, Vancouver island, has had remarkable success, though delayed by mishaps at the start. Before the end of December over 142 tons of oil, valued at \$17,000, had been produced after only a few weeks operation. A little later no less than nine whales were captured and utilized within one week, the products of which were worth not less than \$10,000. The oil is shipped to Glasgow, while the fertilizer and other products are sent to Japan, Hawaii and other countries.

DEPLETION IN THE ARCTIC.

The valuable right-whales of Canada's Arctic seas, once so abundant, are already almost depleted, and except for the immensely profitable captures made by foreign poachers, in the Canadian whaling areas off the Mackenzie river mouth, our Arctic whaling is a thing of the past. Protective measures such as a close season for 5 years would still preserve to us the priceless bow-heads or right-whales in our northern seas, and a specially strict enforcement in the regions between Mackenzie bay and Banks Land or Melville island would permanently maintain the supply. American whalers systematically operate for periods of 2 or 3 years, wintering near Herschell island, and bringing to San Francisco and other U.S. ports their takes, often exceeding \$150,000 in value for a single ship. Indeed one whaler recently arrived at the port named with \$100,000 worth of whalebone, apart from the oil, &c. The details of the earnings of an American whaler, whose catch had been practically all made in the Canadian waters east of Herschell island, were recently given as follows:—the earnings covering eight months' work:—captain, \$16,000; 1st mate, \$8,000, 2nd mate, \$5,000; and so on down to the inferior hands the lowest of which received \$200.

It is authoritatively stated that in the season of 1904, not more than sixty-five right or Arctic whale-bone whales were taken in the northern seas, and the whale-bone would bring between \$800,000 and \$900,000, a much smaller annual return than was formerly secured on our Canadian whaling grounds. While the whale-oil has fallen in price as already noted, sperm-oil being about 60c. per gallon, ordinary whale-oil about 42c., yet these prices are much in excess of other animal or fish oil, such as herring and pale seal oils which bring from 19c. to 36c. per gallon. A single catch of seals such as that made by Messrs. Noble Bros., in the gulf a year or two ago, viz.: 1,500 seals brought only \$3,000—at the rate of \$2 each. The value of whale-oil, of whale meat-fertilizer and above all of whale-bone must always make the industry remunerative if the whales be not depleted. If as authorities are agreed that the right-whales bring forth their calves between the end of March and the beginning of May, and that every second year the female may produce one, or in extremely rare cases, two calves, there exists a basis upon which regulations in the interest of the industry could be devised and enforced. The decline of the Arctic whaling industry, apart from the operations of the north western shores of Canada, is a melancholy story. During the last ten years the Scottish whalers have frequently returned 'clean' or with oil and hides of the little valued beluga or white whale, as in 1898, when the Dundee whaling fleet returned having taken only two or three right-whales. But this year (1905) has been for American whalers the worst on record in the 55 years during which U.S. Atlantic whalers have resorted to our Arctic waters. The British whaling fleet about half a century ago embraced 150

vessels, 20 or 30 being from the Tay ; but there are not more than 6 or 7 Dundee whalers now in the industry. Forty years ago there were 730 U.S. whalers of 233,000 tons register ; but in 1893 there were only 170 of about 40,000 tons register, while in 1904 the number of American whalers was barely 38. The three U.S. whaling ports, New Bedford, Provincetown and San Francisco claimed only 25 ships, 1 bark, 1 brig and 16 schooners, or about a twenty-fifth of the number operated 50 years ago. The utilization in Canada of the numerous kinds of whales formerly neglected and unutilized will give an impetus to the whaling industry which it has long needed ; but the right, whales of the northern waters merit attention and protection, while their less valuable congeners are furnishing a remunerative industry in waters near at hand.

II.

THE PROGRESS OF FISH CULTURE IN CANADA.

By PROFESSOR E. E. PRINCE, DOMINION COMMISSIONER AND GENERAL INSPECTOR OF FISHERIES FOR CANADA.

Fish culture is one of the most ancient of human pursuits, for the Chinese are known to have practised it from almost prehistoric times. In Europe, and on this western continent, it is of recent date. There was, indeed, no necessity for aiding Nature's recuperative processes in the rivers, lakes, and sea, so long as these abounded to excess in the most valuable kinds of food fishes. Even to-day those waters of Canada, not depleted by man's reckless wastefulness, are populous with the finny tribes, and over the Dominion generally, the enforcement of protective laws, close seasons, netting limitations, &c., has warded off exhaustion, though in international waters the difficulties of wise preservation are very great. Hence, the aid of artificial fish culture has been enlisted, not as a substitute for judicious fishery laws, but as supplementary and subordinate. The story of its development and progress in Canada is an interesting one.

It was not until 1853, so far as I can ascertain, that any attempt was made upon this continent to artificially breed fishes. Dr. Theodatus Garlick, of Cleveland, Ohio, was the pioneer. He obtained parent brook-trout in Canada, taking them across from Port Stanley in Ontario, to his establishment in Ohio. He was an enthusiast, and his exhibits of young fish, hatched from Canadian trout-eggs, were a feature for many years at agricultural exhibitions in the various states bordering on the great lakes. Canada soon followed suit. The initial attempts were, of course, largely experimental. The late Mr. Samuel Wilmot claimed to have originated fish-culture in Canada; but I find this claim was disputed, and with justification, by a well-known citizen of Ottawa, the late Richard Nettle. Stimulated no doubt by recollections of famous streams in his native Devonshire, Mr. Nettle, as early as 1856 or 1857, began the incubation of salmon and trout eggs for purposes of artificial stocking, in hatching tanks in the city of Quebec. He disputed the accuracy of the claim frequently put forward on behalf of Mr. Wilmot. The Bishop of Ottawa, (Dr. Hamilton) incidentally confirmed the claim of Mr. Nettle in a recent conversation, his lordship informing me that he himself saw the young fish and the hatching arrangements about the time referred to. Mr. Nettle was then superintendent of fisheries for Lower Canada. From a report by the late Mr. Wilmot, dated December 31, 1878, it appears that he commenced experiments in fish-hatching in 1865, eight or nine years later than Mr. Nettle's experiments, and he carried it on as a private enterprise until the Dominion government took the work over and gave Mr. Wilmot an appointment as a government official. In 1866 Mr. Wilmot acted as a fishery officer, with authority from the government of Upper Canada, and on May 30, 1868, he became an officer under the Department of Marine and Fisheries; but it was not until eight years later (1876) that he became superintendent of fish breeding. For his initial experiments he was paid, in 1869, the sum of \$2,000 by Order in Council.

The Hon. N. W. Clarke, in an address to the State of Michigan Legislature (February, 1871) referred as follows to Mr. Wilmot's initial efforts:—

'The government of Canada has an extensive breeding-house, located at Newcastle, on Lake Ontario, under the successful management of Samuel Wilmot. Some five years ago, this gentleman commenced on his own account to breed salmon, and

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his efforts were crowned with such perfect success that the government stepped in, paid him for his outlay, and employed him to manage it, which, under their laws, it had a right to do. He has since hatched out, and is now hatching large numbers of salmon, and turning them out in the public waters of Lake Ontario.'

Thus fish culture in Canada, at first a private enterprise on a small scale, received a kind of semi-official sanction, but in 1868 it became distinctively a branch of the Dominion government service, the Newcastle Hatchery, possessed by Mr. Wilmot, being transferred to the Department of Marine and Fisheries. This hatchery, Mr. Wilmot affirmed, in his report dated February 3, 1875, 'has been the nucleus from which all of the national and state fish breeding establishments in Canada and the United States of America have taken their rise.' Additional hatcheries were soon built, the famous Restigouche salmon institution in 1872 (twice rebuilt), and the Miramichi Hatchery in 1873. In 1874 the Gaspé Hatchery was commenced, and in 1875 a large mill was purchased at Tadousac and converted into a fish-breeding establishment, supplanted by a new building later. The work expanded, so that Mr. Wilmot, in February, 1875, was able to speak of five hatcheries in Canada, four of them in full operation.

Much interest naturally centres in the Newcastle Hatchery on Lake Ontario, where forty years ago the work commenced. The building, enlarged and improved, is situated on a narrow stream at the head of a small creek or marsh opening into the lake near Bowmanville, and about thirty-five miles east of Toronto. A sheltered and secluded valley of great sylvan beauty incloses the site, but the work has always been handicapped by its distance, both from good spawning grounds, and from suitable areas for planting the fry. Mr. Wilmot erected the hatchery, as was natural, near to his own residence, and at a time when salmon frequented Lake Ontario, and resorted to the creek in question for purposes of spawning.

So late as 1856 large schools of salmon still occurred in the lake; but as commissioner Whitcher and Mr. W. H. Venning stated in their report as fishery officials, they were a mere scanty remnant nine years later, having been destroyed by poachers, especially on the spawning grounds in shallow creeks and streams. In 1865 this scanty remnant 'was snatched from extermination' (as the official report states in 1869) by the efforts of the fishery department. This remnant was utilized at the Newcastle hatchery in early fish-culture experiments, conducted under difficulties, with inadequate knowledge and training, and aided at a later date to a limited extent by the government.

Thus for many years salmon have been practically extinct in these waters, and the hatchery failed in its original purposes of keeping up the supply of Lake Ontario salmon, which Mr. Wilmot claimed to be indistinguishable from the sea-going Atlantic salmon. From 1868 to 1873, over a million fry were sent out from this parent hatchery (an average of 200,000 per annum). A small private hatchery was also carried on during these earlier years of Canadian fish-culture, by the well-known salmon fisherman and merchant, the late John Holliday. Mr. Holliday was born on the banks of the famous salmon river, the Scottish Tay, and was stimulated, no doubt, by the salmon-culture work at Stormonthfield, in Perthshire, commenced in 1853 by the proprietors of the salmon fisheries on the Tay. He built a hatching establishment on the Moisie river (north shore of the Gulf of St. Lawrence), which has continued its operations to the present time. Messrs. Brown and Co., also erected a trout hatchery at Galt, Ont., and, in 1868 had no less than 10,000 parent trout impounded in one of their ponds for the purpose of taking spawn for hatching purposes. Other hatcheries privately conducted with zeal and success might be named, such as the Credit Forks Hatchery carried on by Mr. Chas. Wilmot, the Silver Creek establishment near Toronto and others.

In the United States, it was not until 1871 that fish-culture became a recognized department of work under the auspices of the federal government. Previous to that year individual states had made attempts in this direction, indeed, New Hampshire, in 1865, had commenced fish-hatching operations, and agents were sent to the rivers of

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Canada, where they were permitted (as Mr. Charles G. Atkins tells us) to take salmon from the spawning beds, and were thus enabled to secure some hundreds of thousands of eggs, which were 'hatched with a measure of success.' Pennsylvania and the State of Connecticut followed in 1866. In 1867, 1868, 1869 and 1870 the states of Maine, New York, California, New Jersey, and Rhode Island, severally began fish-culture in their respective territories.

In Canada the salmon and brook-trout naturally claimed first attention; but in 1867 and again in 1868, whitefish were successfully impregnated and hatched by Mr. Wilmot as he tells us in one of his reports.

In October, 1870, Mr. Wilmot obtained a small quantity of char (*Salmo umbla* or *alpinus*) from the Keswick hatchery operated under the supervision of Mr. John Parnaby, of Leeds, England, who had visited the Newcastle hatchery some years before. Though Canada is the home of the char genus, our trouts not being congeners of the *Salmo fario* of European ichthyology, these were no doubt the first old country char introduced on this continent, and the experiment has a very special interest.

A pioneer fish-culturist in the United States, Mr. N. W. Clark of the state of Michigan has been credited with first successfully handling the eggs of the whitefish (*Coregonus clupeiformis*) on this continent, but the statement published by Mr. Wilmot gives four or five years priority to the Canadian, if, as Mr. Clark said, the first whitefish eggs in the United States were artificially hatched in 1872 (see U. S. Fish Comm. Report, p. xxvi, 1872-73). In 1875 a whitefish hatchery of large capacity was completed at Sandwich, Ontario, and has carried on, with marvellous success, the incubation of the eggs of that species on the Detroit river.

Under the zealous and indefatigable Samuel Wilmot, fish culture in Canada made rapid strides, and the Dominion has generally been acknowledged to be in the front rank in this work. France and Germany were in advance, it is true, so far as exact scientific methods and knowledge were concerned, and the United States has taken the lead in making most munificent provision from the public funds for pisciculture, and Great Britain has set a worthy example in private enterprises and in costly experiments under skilled superintendence, witness the Stormonthfield*, Howietown, Cray's Foot, and Guildford establishments.

Canadian fish-culture was no doubt conducted in a rough and ready manner, the Superintendent and his staff being practically self-taught, so that many blunders were committed, and many erroneous methods for some years adopted. But the conditions were so favourable, the purity of the water and the abundance and coldness of the supply, the robust and healthy nature of the parent fish, and similar circumstances compensated for much that was lacking in manipulation and technical knowledge, during the early years of Canadian fish-culture. 'The most important requisite . . . is pure water, it is indeed to a hatchery what coal is to a steam-engine' said the late Sir James Gibson Maitland (Int. Fisheries Exhib. London, 1883), to whom Scottish fish-culture owed so much. It may be doubted whether any other country can offer conditions so favourable as Canada, and it is certainly remarkable that in the vast number of fry of various species, hatched year after year in the Dominion hatcheries, abnormal or deformed fishes hardly ever occur. Monsters as a rule are familiar enough in the tanks of European hatcheries, but nothing is so rare in Canadian establishments.

All fish-culturists are aware that the nature of the water in which fish eggs may be placed during incubation has the most remarkable effect upon the ova, favourable or unfavourable. Some of the older hatcheries have been placed at a disadvantage on that account. A water supply once pure and cool, becomes limited in quantity, warm and impure, as the country around is more thickly settled. At the earliest hatchery this became a serious consideration many years ago. As the officer in charge reported so long ago as 1884:—

* Now supplanted by Dupplin.

'The water supply at this hatchery is not as pure as it should be. Owing to various reasons the stream upon which the breeding establishment is erected has of late years become very much changed in its nature. At one time the water was pure, cold and limpid, but latterly, especially during the hot weather, it is warm, foul, and too unhealthy for the rearing of the higher orders of fish, which are hatched in this establishment.'

In such cases steps require to be taken to secure a more plentiful supply and of purer quality. But the difficulty is increased when the impurities are chemical or mineral. In Manitoba and the North-west some sources of water supply are of a more or less pronounced saline nature. In other cases as on the Pacific coast, the supply may contain saponaceous and other mineral impurities. But it is above all things essential that for the hatching of salmon, brook trout, &c., there should be no mixture of sea water. Professor McIntosh, of St. Andrews, Scotland, nearly 40 years ago (see *Quart. Journ. Micros. Sci.*, London, N.S., Vol. VII., 1868, p. 153), showed that sea water converted the yolk in the sac of the young salmon, from a readily-flowing liquid, like syrup, into a hard material of the consistency of india-rubber, and the later experiments, in 1896, of Mr. O. Nordgaard in Norway, in which different degrees of salinity were arranged and the results noted, demonstrated that while a saline solution of 2 per cent strength was fatal to the eggs of salmon and sea trout, a weaker solution, 9 per cent salinity, had no ill effects, but the eggs were fertilized in it, and the fry hatched out in a normal way.

The following brief résumé of the progress of fish-culture operations in Canada gives at a glance the stages of its advance. The Newcastle (Ont.) hatchery, as already stated, came under government control in 1868, or rather 1867, and in it have been hatched, since that date, Lake Ontario salmon, Pacific spring salmon,* brook trout, black bass, German carp, Great Lake trout, doré or pike perch and lake whitefish. Ontario salmon became practically extinct within a few years after the hatchery was started, and Pacific salmon do not appear to have thriven, one or two questionable records only of their capture having been announced, while black bass proved only partially successful and carp were a total failure. Brook trout, being mainly a game fish and of inferior commercial importance, was eliminated in 1892, though its culture was a marked success. Thus the hatchery has confined its work to the incubation of Great Lake trout, the eggs being secured by government officers at Wiarton, Georgian bay, and the lake whitefish, transferred from the Sandwich hatchery, early in the year, generally February, in the eyed stage. The hatchery was enlarged in 1875, and many subsequent improvements were made at later dates.

The four earliest hatcheries, which were constructed after the Newcastle institution, were located at the mouths of the most famous Canadian salmon rivers, viz., the Restigouche, the Miramichi, the Saguenay, and the York and Dartmouth, and have for thirty years been devoted to the hatching of sea salmon, being admirably located for the purpose.

* Professor Spence F. Baird generously sent from the United States at various times eggs of the Quinnet or Spring salmon.

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The following table embraces details of the twenty-eight Dominion hatcheries arranged for conciseness and convenience of reference.

Founded.	Location.	Kinds of fish hatched.	Annual output.
1867....	Newcastle, Ontario.....	Lake trout, whitefish, &c.....	2 to 6 millions.
1874. {	Flatlands, Restigouche R.	Salmon, lake trout, &c.....	1 to 3 " "
	South Esk, Miramichi R.	Salmon and sea trout.....	1 to 1½ " "
1875. {	Tadoussac, Saguenay R.	Salmon and ouananiche and sea trout.	1 to 3 " "
	Gaspe, P. Q. ²	Salmon.....	1 to 1½ " "
1876. {	Sandwich, Ont.	Whitefish, pike-perch or doré	10 to over 100 millions.
	Bedford, near Halifax, N. S.	Salmon, lake trout, rainbow trout and whitefish.....	1 to 5½ millions.
1880. {	Grand Falls, St. John R., N. B.	Salmon, lake trout and whitefish.....	2 to 4 " "
	Dunk R., P. E. Island ³	Salmon.....	1 " "
1881....	Magog, near Sherbrooke, P. Q.	Lake trout, whitefish and brook trout	1 to 4½ " "
1882....	Sydney, Cape Breton ⁴	Salmon.....	1 to 2 " "
1884....	New Westminster, Fraser R., B. C.	Sockeye, quinnat and other Pacific salmon and trout.....	2 to 10 " "
1890. {	Ottawa Hatchery, Ont.	Lake trout, whitefish, salmon and various trout.....	1½ to 7 " "
	Bay View, near Picton, N. S.	Lobsters.....	80 to 170 " "
1894....	Selkirk, Red R., Manitoba.....	Whitefish.....	4½ to 32 " "
1901....	Granite Creek, Shuswap L., B. C.	Sockeye, salmon and trout.....	4 to 7 " "
1902. {	Lake Lakelse, Skeena R., B. C.	" ".....	4 " "
	Margaree R., Cape Breton.....	Salmon.....	1 " "
	Mont Tremblant, Labelle, P. Q.	Lake trout and trout.....	3 " "
1903. {	Shemogue, Cape Bald, N. B.	Lobsters.....	17 to 100 " "
	Nimipish R., near Alert Bay, B. C. ⁵ ..	Sockeye, salmon.....	1½ to 3 " "
	St. Alexis, Maskinonge, P. Q.	Ouananiche and trout.....	½ " "
1904. {	Shippegan, N. B.	Lobsters.....	50 to 100 " "
	Block House, Charlottetown, P. E. I. ..	" ".....	60 to 100 " "
	Kelly's Pond, " ".....	Trout.....	1 " "
	Canso, N. S.	Lobsters.....	8 " "
1905. {	Windor, N. S.	Salmon, trout and shad.....	1½ to 2 " "
	Harrison Lake, B. C.	Sockeye and other B. C. salmon.....	6½ " "
	Pemberton, Lilloet, B. C.	Sockeye, salmon.....	20 " "
	Oweekayno L., River's Inlet, B. C.	" ".....	10 " "

¹ The two earlier hatcheries were located at Deeside; the Flatlands hatchery was opened in 1900.

² The original hatchery on the Dartmouth river outlet was closed and the present hatchery built in 1902.

³ This hatchery was burned down in 1887, and the Charlottetown hatchery, Southport, opened 1905.

⁴ Sydney hatchery ceased operations in 1897, and in 1902 the Margaree hatchery was opened.

⁵ Nimipish hatchery was built by Mr. S. A. Spencer; but burned down in 1904, and the present hatchery is operated by the B. C. Packers' Assoc. under Dominion supervision.

The total quantity of fry of all kinds distributed from the foregoing institutions since fish-culture has been carried on by the Dominion government, that is from 1868 to 1905, both years inclusive, is no less than 4,806,416,100. The average annual quantity during the last 20 years has been 221,000,000. In 1895 the output was extraordinarily large, amounting indeed to nearly 300 millions. For the last nine years vast quantities of lobsters have been hatched, the annual average being no less than 100,000,000. Deducting these from the total output, we find that the average output each year, during the last twenty years has been 85 millions, mainly of the three kinds, salmon, Great Lake trout and lake whitefish (*Coregonus*), which are all fishes of great economic value.

While the hatching of species of fish valuable from a commercial point of view has always been the principal feature in fish-culture under the Canadian government; experiments with fish, important from a sporting standpoint, have not been wholly ignored. Indeed, so early as 1872, Mr. Wilmot experimented with black bass at Newcastle, Ont. He secured a number of adult fish, obtained by fishermen through the ice, near Belleville, and conveyed in barrels to the ponds near the hatchery. In the fol-

lowing year he carried out a similar scheme on a more extended scale obtaining five parent bass in May from the drag-seiners operating on the shores of the Bay of Quinté. These were placed in small ponds near the Newcastle hatchery. Mr. Wilmot in his report states that on 'May 25, some of the bass began to pair off, and to commence making nests; some being made in the deepest parts of the pond, others in the shallow places; some were formed on gravel beds; others, where sunken sticks were fastened at the bottom of the pond. They were invariably hollowed out a little, and made clean by the action of the fish, which gave them a bright appearance; the nests being round in shape, and varying from twelve to eighteen inches in diameter. Upon those, the parent fish deposited their eggs and milt. Nest-making terminated about June 10; the time elapsing from the first formation of these beds until the young fry were noticeable, varied from twelve to sixteen days, and a further period of five and six days took place, before the little fish left the beds. After the eggs were first laid, they were seen with difficulty through the water upon the nests. The surface of the beds presented in a few days a very dark appearance. When hatched out, a perfect mass of little black animals, not unlike tadpoles, covered the whole bed. After five or six days, as stated above, they disappeared from the nest amongst the weeds and other substances, where hiding places could be found.'

Such work was of an erratic and subsidiary nature and it is only in recent seasons that systematic black bass culture has been resumed. For about six years the breeding of black bass has been carried on in ponds secured by the department on the Bay of Quinte, Belleville, Ont. The principal pond is very near the bay and is about 100 feet square, a cold clear spring-fed inclosure with shelving rocks descending to the centre where it is about 5 feet deep, while at the margin it is 4 or 5 inches. About fifty large parent bass are placed in the pond and many thousands of young are each season hatched in the nests made by the fishes, where they are guarded by the parents, and move off later into a connecting channel where there is abundant feed. Plenty of insect and minnow food is essential for bass breeding. It is the same with regard to stocking. As an authority recently says:—

'To be successful with small-mouth black bass, they should be planted in ponds that are fed by clear, pure streams, or with bottom springs. Large-mouth bass will do well in a pond with a mud bottom that has a liberal quantity of vegetation. It is of great importance that ponds for either species should contain abundance of natural food, as craw-fish, minnows, frogs, &c., for it is a well-known fact that any interference whatever with the admirable balance which nature has established in the animal kingdom is more apt to lead to mischief than to success.'

In the province of Quebec the Lake Lester ponds (Eastern Townships) are used by the department for rearing trout. About 250,000 trout fry are impounded from spring until September or October, when they are 3 or 4 inches long, and are then planted in selected waters.

The introduction of eastern species into western waters and *vice versa*, and supplying other countries with Canadian fishes has long been a feature in the scheme of fish-culture in the Dominion. As stated on another page, Canadian fish were supplied gratis, or for a time, were sold for stocking U.S. waters, and on many occasions the Fish Commission of the United States and individual states have generously presented quantities of Pacific and other salmonoids for introduction in our waters. English char and Pacific rainbow trout have been planted in eastern lakes and streams. Atlantic salmon have been placed in Ontario lakes, and New Brunswick ouananiche have been transplanted to Quebec lakes. On three occasions first in 1896, second in 1901, and third in 1902, black bass have been planted in the Northwest Territories or on Vancouver island, British Columbia, a large quantity of lobsters, and of immature and of full grown Atlantic oysters have also on these occasions been shipped west under conditions designed by much careful thought and elaborate arrangement, which ensured success. To New Zealand, shipments of Canadian fish-eggs have been sent on several

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occasions. In 1898 the government of that colony made a request for B.C. salmon and lake whitefish, and in 1899, and again in 1901, in response thereto, carefully packed supplies of ova were sent. These courtesies have been most warmly acknowledged by the New Zealand government.

Whatever may be said for or against the artificial hatching of fish, no fair-minded critic can doubt, that the distribution year after year, of this enormous quantity of young fish must have benefited our waters to an incalculable extent. Artificially hatched fry, unlike those hatched naturally on the spawning beds, must in the eyes of some critics, be more at the mercy of enemies when newly planted. Nothing, however, could be more helpless and unprotected than naturally hatched fry, and those turned out from hatcheries are really less at the mercy of enemies, inasmuch as they are always some days old, frequently several weeks old, before being planted, and should be more sturdy and robust than the fry exposed immediately after hatching, on the natural spawning beds. Nor is the objection better founded that the fry are suddenly transferred from the warmer water of the hatchery to the colder water of the lake or river outside. Records, which have been kept, show that the water flowing rapidly and plentifully through the tanks is more equable and cold than the shallow waters outside. The fry, it is further contended, are untaught to seek shelter, and must be gobbled up by watchful enemies. This cannot be so. The eggs are all taken from wild fish, and the young inherit the instincts of their parents. Hence when the fry have been carefully watched at the time of planting, they have been noticed to act with alertness and intelligence, and at once dart off to shelter. All the stock objections are made in ignorance of the real facts, for the facts all prove the very opposite of the theories set forth by critics, usually arm-chair critics.

Fish culture, at this late date, needs no advocacy or defence, yet recent unsolicited testimony may be adduced, sent to me as affording evidence of the success of the government hatcheries. A lake near Three Rivers, P.Q., was planted several years ago. It abounds at the present time with fine trout, says the member of parliament, who is my informant, although these fish did not formerly occur in it at all. A lake in Victoria county, Ontario, I have recently been informed by residents, is alive with trout consequent on being stocked by means of fry. Most visitors to the river Saguenay know the Tadousac hatchery, and the small lake adjacent to the building abounds in small salmon a few pounds in weight, the result of the surplus quantities of fry placed there by the hatchery officer. 'On one occasion,' says the officer in an official report, 'I permitted the Bishop of Chicoutimi, to fish in the hatchery lake. He was accompanied by the Rev. Mr. Mathieu, Superior of the Quebec Seminary, and the Rev. Mr. Lemieux, of Tadousac; they were astonished at the number of young salmon that could be caught.' A most convincing case came to my notice, however, on the testimony of a gallant and facetious member of the House of Commons, who bitterly complained that a New Brunswick lake, stocked with brook trout at much cost, had received also some Great Lake trout from a government hatchery. The latter have so prospered and grown in size and numbers, that they are cleaning out the brook trout, formerly so abundant in it. The club who lease the lake are anxious to exterminate the hordes of huge lake trout which are the direct result of fry planted there from Grand Falls hatchery, and the use of nets has been resorted to, enabling some fine specimens of these 'fresh-water sharks' to be captured. Deplorable as are the results from the club's point of view, no better testimony to the success of the government's hatchery work could be adduced.

While the Great Lake trout are valuable commercially, they are not held in much esteem generally for sport, but in certain Ontario waters, where they are usually called 'salmon,' they are fine large fish and attract great numbers of anglers, and artificial stocking has alone maintained their numbers. 'Beyond doubt the planting of the hatchery fry is a success,' one prominent authority wrote to me not long ago. Last season we had the best salmon trout angling known here for many years. The

oarsmen claim that they can tell the new salmon from the old native variety. It is quite common to hear the remark 'that is a government salmon.' Again, an able sportsman, formerly a member of the House of Commons, informed me recently that 'Lake Memphremagog shows every indication that the planting of whitefish (*Coregonus*) has resulted in stocking its waters plentifully with fine whitefish of superior quality, and weighing from 2½ to 6 lbs. each.' The department's efforts to introduce black bass into the waters of the Northwest has succeeded also, for a quantity of these fine game fish shipped in October, 1902, in charge of experienced officers, were in part planted in Buffalo lake, near Lacombe, on the Edmonton branch of the Canadian Pacific Railway, and in May, 1905, a lady fishing in that lake caught a fine 3½ lbs. fish. The lady referred to did not know what kind of fish it was, but stated that it was very game, and made a determined fight, which ended only after prolonged playing when it was hauled on shore dead. In the previous fall (1904) a similar black bass had been captured by an angler who was unaware that the lake had been stocked in 1902 by the government as an experiment.

As I have repeatedly pointed out in various blue books it is useless to expect results in artificial stocking of rivers and lakes, unless proper protective measures are taken to prevent the fish being exterminated. Thus certain salmon rivers, and some of the inland lakes, including the great lakes Ontario, Erie, Huron and Superior, have been planted for long periods of years with vast quantities of fine fish, yet the old plenteousness has not been restored. Incessant overfishing, and all kinds of destructive instruments, spears through the ice, &c., as well as the capture of small immature fish, has gone on without limitation, and yet an increase in supply has been expected from the planting of a few millions of hatched fry. Even anglers forget that streams cannot be restored if record catches are attempted each season. Scarcity of fish will inevitably continue if sportsmen will not be satisfied with an ordinary good catch. The angler who, a year or two ago, caught seven dozen river trout in a single evening in a Prince Edward Island stream, or the sportsman who took forty splendid ouananiche at the mouth of the Metabetchouan in two days, in May, 1900, or three U.S. tourists, who took out of the Niagara river, in a single day, in September, 91 black bass weighing over 200 pounds, are frustrating all attempts to supplant the present scarcity of game and of table fish by the plenitude which fish-culture would crown with certain success. The wise fisherman and the true sportsman will, in their own interest, frown upon the excessive destruction of fish. A more judicious policy, and a more sportsmanlike feeling would render the work of fishery restoration easy. Even in waters regarded as almost virgin waters like those of northwest Ontario, the effects of wanton and wasteful fishing, are being felt. There is wisdom in the observations of a well-known angler who describes his feelings on the matter, in his account of a Magnetawan trip, Georgian bay district, he says '*Forest and Stream*, N.Y., Oct. 23, 1899:—

'Heretofore much of the country traversed by the Magnetawan has been low and swampy, but here the islands and shore line stand high up out of the water. Numerous islands well wooded with pine, poplar, cedar and hemlock enrich the scenery. As we rounded a rocky point a lone but not lonely fisherman exultingly held up a string of twenty-five bass. I have never been able to see how any intelligent angler can be so foolish and barbarous as to kill twenty-five fish. Twenty of those fish might and ought to have been returned to the water. How often, oh, how often in the days gone by have I seen splendid bass rotting in heaps—anglers unable to use their catch and too foolish and cruel to return the fish to the water. Again and again I have seen campers trying to give fish away to the farmers. Let farmers catch their own fish and return all you can't use to the water, and fishing here at least would be good for generations to come.

To most people fish culture is thought to consist in taking some 'ripe mature fish,' just before spawning, squeezing eggs from them, fertilizing them, and placing them in jars or on trays, in a current of water until the young fish hatch out. Fish culture is, however, much more than that, it includes at least half-a-dozen different methods. Of

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course, one method, and that most familiar, consists in obtaining ripe living fish of both sexes, and after subjecting them to the same process of careful and gentle pressure, mingling the two products in a spawning vessel or dish, where the eggs are rapidly fecundated, and then transferring the vivified eggs to the trays or hatching jars. The parent fish, being handled with care are returned to the water, with rare exceptions, alive and unharmed, and in the case of salmon usually continue the ascent up-stream, which had been interrupted by the hatchery officials. In B. C., it is said, the spawned fish frequently descend, but this may depend upon the sex, for Frank Buckland noticed that male salmon invariably bolt upstream if disturbed, whereas the 'hens' or female salmon bolt down stream. The fish do not die, as the signs of ripeness are readily visible to the expert officer's eye, and ripe fish are spawned painlessly and with the utmost readiness and ease. It is a curious fact that eggs from dead fish may be successfully used if death is recent. Thus the distinguished Russian naturalist, Owsiannikoff, in a paper read in 1869, before the Imperial Academy of St. Petersburg, stated that he had fertilized the eggs taken from dead fishes, and in most cases with success. Different species also may be crossed and hybrids readily produced, but there are limits to the process due, no doubt, to certain microscopic peculiarities in the structure of the egg capsule.

Two methods of fertilization have been adopted, the wet and the dry, and the latter has almost universally superseded the former. In the dry method no water is added until some moments after the ova and milt have been mingled and gently stirred with a feather or the fingers. In the early days of Canadian fish-culture the wet method was followed, and the eggs were placed in water before the milt was added, and a proportion of eggs always failed to be fecundated, hence the universal adoption of the so-called dry method.

Some of the different methods followed in obtaining eggs or fry may be here instanced.

(1) The parent fish are secured some time (days or even months) before spawning, and impounded until they become ripe and swollen. Whitefish are often kept in this way, and the plan has been adopted in Canada of confining salmon in tidal ponds for many months, and apparently without harm. Indeed the salt water prevents fungus, and as salmon take no food after leaving the sea, there is no difficulty in retaining them until the spawning season, and then taking the eggs and milt. After being kept from June or July until October or November the parent fish are liberated on being artificially spawned.

(2) The parent fish are netted at the spawning time near the breeding beds. Salmon, in British Columbia, are treated in this way, also Great Lake trout and whitefish. The parent fish are rarely injured, and are thus liberated in their native waters.

(3) Parent fish are captured and the eggs taken and fertilized, but the fish are killed and sent to market. This is the plan adopted in some cases by U. S. fish-culturists, especially with the Great Lake trout. It is unavoidable as a rule, with black bass and sturgeon, even when very ripe, as they refuse to yield their spawn. It is not adopted in Canada.

(4) Parent fish are impounded in ponds or inclosures, where they deposit and fertilize their spawn naturally. The spawn is then transferred to the hatchery and incubated artificially. Bass, maskinonge, perch, carp, sturgeon, &c., have been treated in this way.

(5) A similar plan to the last is followed excepting that the eggs are allowed to hatch out in the ponds where deposited, and the fry are reared under official supervision for 6 to 10 or 12 weeks as at the Belleville bass ponds.

(6) Instead of securing the parent fish, or obtaining the eggs after being deposited, the small fry, incubated and hatched naturally, are netted and used for purposes of stocking waters. Trout and black bass have been mainly introduced into new waters by this method. Black bass, when very young, devour each other, even

when only a little over an inch in length, and the Caledonia (N.Y.) Hatchery officers have reported that their young black bass grow so rapidly that they must be shipped immediately after being collected in the adjacent marsh ponds. Nearly 400,000 of these fry are annually distributed from the American hatchery named.

The method referred to above of retaining salmon in salt water tidal ponds until they are ripe, and ready to be artificially spawned, merits a brief notice. It is a method first practised, so far as I can ascertain, in Canada, and grew out of an experiment made at the Tadoussac hatchery in 1875. In that year Mr. Wilmot selected a few salmon, as he tells,* which were kept in a salt water inclosure until 'the very time of spawning. These eggs went through precisely the same process as those that were taken from fish kept in fresh water, from the time of spawning till they were hatched out; there was no difference whatever observable during the period of incubation, nor after they became young fry. This experiment was repeated with a large number of salmon that were kept in salt water last fall, and up to the present time the results are precisely similar to last year. It may therefore be now safely concluded that the ova of the salmon will arrive at maturity, and be equally susceptible of impregnation, when taken from fish kept in salt water, as in fresh, and that no difference exists with the eggs during incubation or with the fry afterwards.'

The system has been extended and a very extensive salmon retaining pond has been operated with remarkable success at the mouth of the St. John river, near the city of St. John, N.B., whence supplies of eggs are sent to a number of hatcheries. The parent fish are bought during June and July mainly, from the net fishermen, and conveyed alive to the tidal inclosure, where they remain, in good health and condition until October or November, when their eggs are ready for the artificial spawning process. At St. John, N.B., Tadoussac and other places this method has proved very satisfactory, from 900 to 1,200 salmon being secured at the first-named place.

Broadly speaking the stocking of waters may be carried out in eight ways:—

By (1) Planting fry artificially hatched from artificially fertilized eggs, a method almost universally adopted in government fish-culture in Canada and other countries.

(2) Planting fry naturally hatched from artificially fertilized eggs, a plan occasionally carried under special stress when eggs might have been lost, through shortage of water or similar cause in the hatchery. The artificially fertilized eggs are in such cases placed on appropriate shallows, and watch kept until they naturally hatch out.

(3) Planting fry naturally hatched from naturally fertilized eggs, as has been done in the case of brook trout, black bass, &c., the newly hatched fry being dip-netted and transplanted after capture.

(4) Planting fry naturally hatched from naturally fertilized eggs, but reared artificially, such wild fry, having been netted, are retained in feeding tanks or ponds, until of larger size, and then planted as has been done with sturgeon, striped bass, brook trout, &c.

(5) Planting fingerlings and half grown fish hatched on spawning reserves or in hatchery rearing tanks, a method which is valuable, but costly and laborious with most fishes. Fifty per cent or 60 per cent of hardy fish like salmon or trout die while being reared, but of whitefish pickerel or doré not 5 per cent can be reared, over 90 per cent dying under artificial conditions, food, &c.

(6) Planting fingerlings and half grown fish procured in the natural breeding resorts.

(7) Planting eggs naturally or artificially fertilized on 'redds' or natural hatching places to incubate under natural conditions and thus themselves stock waters, without further aid. Lake Huron fishermen have planted lake-trout eggs in this way.

* See Rep. Dep. Mar. and Fish. (Supplement No 4) 1876, p. 361.

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(8) Planting adult fish transferred from other waters.

It is plain that if we can secure the eggs from the ripe parent fish, fertilize them by the dry method, and hatch them under the care of experts, the results must infinitely surpass those possible under natural conditions, where a small proportion only can be expected to surmount all the dangers and difficulties of their environment. Let me give an illustration of this waste of eggs on the natural spawning beds—a waste not contrary to natural law, but obedient to the principle of compensation and adjustment, universal in the world of nature. In 1895 I spent some time closely observing certain spawning beds of the Fraser river salmon, commonly called sockeye or blueback. I noticed, not once, but scores of times, pairs of fish busy nesting, the male fish lingering near his partner until she shed a shower of eggs. Just as the eggs were cast into the rapid stream, the male fish had his attention attracted by a rival, and darted with lightning speed to drive him off, both male fish tearing at each other with gaping jaws, armed with formidable teeth, the teeth at this time being of abnormal size. Time after time I saw female fish wasting their eggs in this way, for the eggs deposited in the gravel by the female, while her partner was engaged in a fight twenty or thirty yards away, were unfertilized and would, of course, perish or be eaten by hungry enemies, suckers, trout, &c., which hovered near in hordes.

This loss of naturally spawned eggs is universally admitted, but the crowding on the spawning grounds, or 'redds' as they are called in Britain, proves injurious to the fish, as the fungoid growth, which is so terrible a disease, is transferred from one to the other, if indeed this crowding is not the original cause of the disease. The first great destruction takes place on the 'redds.' Everywhere over these are tiny raised heaps of gravel sheltering the spawn, but the shelter is insufficient to guard it from devouring enemies. These are in the air, on the land, in the water. Many members of the hungry salmonidæ themselves prey on the spawn, and it is difficult to cope with them. Bunches of wild duck and teal seek out the 'redds' in the autumn, and feed on right through the night if not disturbed. Here, too, as frequently witnessed, the swan leads her cygnets, and it is known that one of these large birds will destroy nearly a gallon of ova in a day.

The curious fact repeatedly noticed by observers, that male salmon outnumber the female; and the fierce fights and numberless resulting deaths, may be a device for reducing the surplus number of one sex. 'To me it is the strangest puzzle,' said Frank Buckland, 'why the male fish always predominate over the female,' and he asserted that frequently there occurred seven males where there might be not more than one female salmon. During the second year of the Restigouche Hatchery's work, the late John Mowat reported that the male fish were in excess of the female as two to one, and the late Alexander Russell, in his famous book, 'The Salmon,' gave prominence to Shaw's not less interesting discovery, that in the young striped 'parr' stage, male salmon are mature, 'the parr (alone) arrives at sexual maturity, and does and can impregnate the ova of the adult female salmon.'

If, to the natural loss of enormous quantities of eggs by non-fertilization, be added the depredations of ducks, loons, herons and aquatic birds, not to speak of otters and four-footed enemies, as well as destruction by floods, by mud, gravel and ice, it is easy to see how great are the advantages offered by artificial incubation, and by caring for the eggs in properly equipped hatcheries.

Anglers, as a rule, favour fish-culture, but there are exceptions, and the sportsman needs to be reminded that, whereas, the fish are liberated strong and uninjured after being artificially spawned, those taken by the angler's line shortly before the breeding season, are killed and prevented from fulfilling their task of peopling the waters with young brood. It is easy to hatch 90 per cent of salmon eggs in a hatchery, whereas, Sir Humphrey Davy estimated that not six per cent of the eggs deposited on the breeding grounds, come to perfection, and Stoddard held that only four or five fish fit for the table were the result of 30,000 ova on the spawning beds. The take of salmon in a single net may suffice to furnish enough eggs to keep up the supply

of young fish, and it is the rule at the government nets to liberate all fish not required, and these are allowed to ascend to the upper waters. Thus at the Tadousac nets in 1889, 559 salmon were taken for the hatchery, but 310 of the largest were sufficient, and the remaining 249 were turned into the river again. This is frequently done. In most of the hatcheries reliance is placed upon the departmental nets, managed by the hatchery officers. In these nets fish are trapped, and after being spawned are set free.

What the liberated fish do after being released has long been a problem, but as already stated, they doubtless continue up the river, and linger about until prompted by the necessities of a long fast to return to their feeding grounds in the sea. They do not and cannot feed to any appreciable extent in fresh water, but that they survive has been fully established in the St. John river, N.B. Thus, among the salmon set free by the department's officers at the Carleton salt water salmon pond, St. John, N.B., during the spawning operations in November, 1904, one bearing the copper tag used by the officers was caught six months later in the Kennebecasis waters, not many miles distant, viz., on April 11, 1905. A large number were thus marked and will no doubt be captured.

In some cases parent fish are bought from local fishermen by special arrangement, but the plan has, on the whole, proved uncertain, as the fishermen asked exorbitant prices, or ignored their agreement and shipped the fish straight from their nets to the markets, leaving the hatchery officers in the lurch. Many parties have entertained an ignorant prejudice against artificial hatching of salmon, not fishermen only, but men of education and social standing. Thus the lessees of certain rivers in Gaspé, refused to allow any salmon to be taken for hatchery purposes, and anglers who have been known year after year, to kill hundreds of salmon in famous pools, really spawning grounds, have declaimed against the inhumanity of taking the spawn from the small number of parent fish, which are ample for supplying a salmon hatchery.

Frank Buckland has truly observed that 'the success of salmon egg-collecting depends upon very small circumstances, and he specifies seven necessary provisions to be made by the 'spawner,' viz.: a water-proof suit, spawning pans of large capacity, a long, shallow basket to hold the fish under water until wanted, hose flannel in yard lengths for wrapping the struggling fish when spawning, dry towels to wipe slime off the hands, moss and trays, and lastly, nets.

In a report published in the Marine and Fisheries Blue Book, 1896, I described all the types of fishes' eggs known to scientific experts. I grouped them under seven heads, according to their special features, and I pointed out that they varied in shape, size, external structure, &c. The smooth, spherical, pea-like eggs of the salmon, trout, whitefish, and the like, are far more favourable for artificial incubation than slimy eggs, eggs clinging in bunches, eggs in gelatinous strings, eggs covered with spines, oval eggs, and other varieties.

The eggs resembling peas vary in size in different species. A quart measure is frequently used in counting eggs on account of its convenience. The measure holds 57.75 cubic inches, and has been found to be capable of containing 3,300 land-locked salmon eggs; 4,272 Atlantic salmon; 3,696 Pacific salmon; 5,525 Great Lake trout; 8,311 to 9,935 English brown trout, 12,063 to 13,998 American brook trout; 24,363 striped bass; 28,239 shad; 36,800 lake whitefish; 73,938 maskinonge; 152,292 pike, perch or doré; 233,280 tomcod; 335,000 cod; 496,000 smelt. In diameter the eggs vary from $\frac{1}{4}$ of an inch in the Atlantic salmon, and $\frac{3}{16}$ of an inch in the brook trout, to $\frac{1}{30}$ of an inch in the tomcod (*Gadus tomcod*, Walb) or $\frac{1}{25}$ of an inch in the silver hake (*Merluccius*).

Or, to compare the sizes in another way, the eggs of the brook trout are such that 36 will cover a square inch; lake trout, 21; whitefish, 66; black bass, 150, and pike, perch or doré, 150.

When the ripe female fish is being spawned by the hatchery operator, the eggs run freely in a stream into the pan or dish, previously rinsed in clean water, the operator

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gently pressing the abdomen with one hand, while with the other he holds the fish firmly in the region of the anal fin, the head of the fish being secured under the armpit, if a large fish like a salmon. A male fish is then treated in the same way, the milt flowing into the spawning pan amongst the eggs, and the eggs are stirred with a feather, thus securing fertilization. After being washed, the eggs are placed either upon black Japanned tin trays, 15 in. x 10 in. x $\frac{1}{4}$ in., perforated with small holes and holding about 2,000 salmon eggs, or they are placed in glass vases 20 in. x 6 in. in diameter. The former are more suitable for salmon and trout, the jars being best for whitefish. Zinc trays are found hurtful to eggs, the officer of the Miramichi hatchery reporting in 1874 that a large number of salmon eggs were poisoned from this cause. The eggs, being alive, require abundant oxygen, hence a continuous stream of water must pass over them day and night until they hatch out. Under natural conditions river-water, of course, pours over the eggs, but fish-culturists are agreed that spring-water is preferable for hatching purposes, not only because the temperature is more equable, but is purer and more free from debris and vegetable matter. In 90 to 120 or 150 days, the young fish burst from the eggs; shad, however, take only from two to five days, and cod hatch in ten to thirty days. Most of the valuable fresh-water species, like the trout and whitefish take many months. In special cases where the hatching of sturgeon and shad has been attempted as in Chautauqua lake, N.Y., hatching boxes with double wire screen, top and bottom, have been placed in a running stream, or if containing mas-kinonge eggs, have been sunk at a depth of four or five feet in the lake.

The fry are transferred to large tanks for periods of a few days or a few weeks, and are distributed in large cylindrical cans, nearly two feet high and twenty inches in diameter, the narrow neck of which is devised to hold ice in hot weather, in order to keep the water cool.*

The young fish carry beneath the body a small bag of food yolk, and require no other food until it is used up—a few days sufficing in some species, a few weeks in others. If possible, the fry should all be planted before the store of natural food is exhausted. In stocking lakes or rivers it is best to select inshore shallows not frequented by large fish, or rocky ridges and banks far from shore. The fish travel by rail or team for long distances without serious harm, if ice is used with care. Short distances are, however, best; indeed, Mr. Samuel Wilmot urged the establishment of small supplementary hatcheries, where the advanced eggs could be sent just before hatching, and the fry more safely distributed from them. 'This system of carrying or rather trying to carry, young fry to distant points (particularly where no speedy means of travel by railway is to be found) should be discontinued (said Mr. Wilmot in 1877), because the time almost invariably spent in fruitless journeys of this kind, could be so much better and more profitably applied at nearer points, where the safety of the young salmon in the transit could be relied upon.' At times a few thousands of fry have been kept until they are four or five months old; but constant care is necessary, and a large proportion as a rule, die when the fry are kept out of their natural habitat in lakes or rivers. The feeding of fry is not easy, as the quantity and kind of food require regulation, or the results may be fatal. In 1887 eight or ten thousand young salmon were retained in a pond at the Restigouche hatchery, and were fed during the summer, 'yet they did not seem to thrive well, as but few were seen in October when the pond froze over (as Mr. Alex. Mowat reported) . . . I have very little faith in ordinary attempts to grow fry with artificial foods, with a view of realizing any benefit from the proceeding.' Last year Mr. Mowat again kept some salmon fry (about 10,000) in outside tanks with an ample stream of water passing through. Mr. Mowat is one of the best practical fish-culturists living, and this experiment was a success owing to special attention, the fry growing satisfactorily until they were nearly six months old. The food consisted of finely ground raw fish and liver; but

* Fry are conveyed up some salmon rivers in floating crates or perforated boxes, and 25 miles of a river can be planted in a day.

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quite as important a matter was the intelligent manipulation and care of a zealous officer in charge. The fish were well fed, yet not overfed, and kept perfectly clean, by the removal of dead and decayed matter, especially waste food.

The growth of fishes, especially young fishes, varies extremely; thus brook trout are usually two inches long when four months old; three inches when eight or nine months old, and five inches when a year old. Lake trout are six inches long at the end of the first year, and black bass at the same age are four to six inches. Salmon, when confined in ponds, are often stunted in growth, thus 3,000 salmon fry were planted in a small lake near Louisburg, Cape Breton, in 1888. In 1889 they were three or four inches long, and in 1891 (in their third year) some were caught with the fly, but were not more than eight inches in length. A similar experiment at the Restigouche hatchery, resulted in producing young salmon, seven inches long, in the third year, and ready to descend to the sea. Many of this batch of fingerlings measured fully three inches in length.

In British Columbia young salmon (sockeye, coho and other kinds) have been kept until many months old, in ponds near the hatcheries, and apart from the food supplied to them, must have fed upon minute organisms which abounded amongst the aquatic vegetation. In some U. S. hatcheries as at the Rogue River hatchery, Sacramento river, large numbers of salmon fry have died when about two months old, which had been fed on canned salmon. In these western hatcheries ground liver, liver and mush mixed, and canned salmon have been chiefly used. The last fouled the troughs with a greasy scum, said to affect also the gills of the little fish, hence it was pressed until of the consistency of damp earth and proved as satisfactory as liver, and liver and shorts, so far as the growth of the fish is concerned.

A very prominent English pisciculturist has recently recommended desiccated haddock ground up coarse, bones and all, as the ideal trout food. The dried stuff contains only about 20 per cent of moisture and is fed to the fish in a stiff paste. Three to three and a half pounds of the concentrated meal will, it is claimed, produce one pound of healthy trout.

Before the yolk is gone, trout fry will pick up minute particles of food, but they may be fed on hard roe of flat fishes, of mackerel, or of other fish with very small eggs, which are easily scattered amongst the hungry alevins. Liver and rock-mussel's finely minced form good food; but very little should be given at a time as fragments falling on the floor of the tank pollute the water. Opinions are divided as to the advantages of planting young fry, or of keeping them until a year old.

During their early stages and later in life various diseases attack fishes, especially vegetable parasites such as the well-known fungus *Saprolegnia ferax* and *Achyla racemosa*, and psorosperms and bacteria. Dr. E. J. M'Weeney, made a most interesting study of some diseased salmon alevins about 1½ inches long, hatched at Ballisodare hatchery, which had died.* The eggs came from the Rhine and were German salmon. The young fish were found to be suffering from *Saprolegnia*, but in the culture on the 4th day of the experiment the other vegetable parasite *Achyla* was found amongst the hyphal filaments of the original fungus. The rapid spread of *Achyla* amongst eggs in hatching trays renders necessary constant picking out of dead or diseased eggs. On some smolts of salmon the same authority found ulcers on different parts of the body from the size of a pin's head to that of a ten cent piece, and they showed no traces of the mycelium threads of a fungus (*Saprolegnia*), but round and oval refractive granular bodies belonging to the protozoan myxosporidia resembling superficially the microsporidia of barbel and pike found diseased in the Rhine. Further, a large salmon with abraded spots on the skin and fins was shown to be infected with *Saprolegnia*, which so weakened the fish as to render it favourable for the attacks of bacteria found abundantly in the liver, &c. This fungus, which attacks eggs during incubation, is most pernicious. What is called 'dropsy' in the yolk-sac is not com-

* See Dr. M'Weeney's Report, Irish Fisheries Office, Dublin, 1892.

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mon, inflammation or clogging of the gills is frequent, but fungus is an epidemic that often carries off entire batches of eggs and fry.

The commonest remedy is common salt, of which a saturated solution is made, practically strong brine, and this is poured into the tanks containing the infected fish. It is a good plan to turn off the supply tap so as to leave 2 or 3 inches of water in the tank, and it is easy then to convert the contained water into a fluid not quite the strength of sea-water. It must be thoroughly mixed and the fry left in for about half an hour. Usually the bath has no ill-effect; but if the fry appear to be becoming weak or discomforted, the fresh water should be turned on again. A bath of this kind has been found beneficial, though it requires care, as young salmon immersed in sea-water too long die from hardening of the yolk-sac, which becomes dense as stated above. Recently another remedy has been advocated, viz., permanganate of potash, which sweetens the water and destroys organic germs. The *Revue Scientifique* notes that at the Geneva Exhibition, 1896, permanganate of potash was used to clean the aquarium, and it is claimed that it prevented the specimens of the salmonidæ from being attacked by *Saprolegnia*. It is a matter, however, of experiment as yet, and further trials are necessary to establish its success.

I have always recommended, however, bichloride of mercury as a remedy, though it requires more trouble in application and some little skill. It is successful as is shown by a recent writer who says:—

‘While visiting a friend who has a fish pond stocked with gold fish, I learned the fish had been attacked by a fungoid disease, or a growth of a white fluffy appearance on their scales which is common to fish in vivaria. He cured his fish in the following singularly successful manner: He first caught the fish thus affected, and, with a small painter’s brush or the thumb and finger, removed the fungus, and then with a solution of 18 grains of bichloride of mercury diluted in a 6 ounce bottle, he applied with a camel-hair brush this solution over the parts affected, holding the fish a few seconds before returning them to the water, which was changed daily. The result, he states, is that after one application his fish have entirely recovered, with but a few exceptions, which, however, he states have been cured by a second application.’

Discretion is not always shown in the planting of fish suited to the waters selected. Carp have been a questionable benefit, black bass in some waters have been far from a blessing, and that splendid game fish, the maskinonge, proves to be a veritable fresh-water shark in some lakes. ‘If planted in many of the small inland lakes says Mr. Annin, jr., Superintendent of N.Y. State Hatcheries) the result will be that perch, pickerel and bass fishing would be greatly damaged.’ If predacious fish abound, it is useless to attempt stocking with a better class fish. The fry are inevitably exterminated. In Chautauqua Lake, N.Y., the U.S. authorities wisely decided to clean out that voracious ganoid, the bill fish (*Lepidosteus*), and in two seasons over 4,000 of these useless fish were captured in seines, pounds and traps, such extermination being often necessary before stocking begins. For some years the pike-perch or doré (*Luciopeca* or *Stizostedion*) were hatched at Sandwich and at Ottawa. The first batch, about one million, were hatched in 1881, but partly on account of difficulties in securing ample supplies, this species was, after ten or eleven years, no longer embraced in the government operations. Black bass too, for a time, were hatched at Newcastle, and German carp were also included, for one or two seasons, under the mistaken idea that it would introduce ‘into ponds and waters (to quote Mr. S. Wilmot’s report) now depleted a highly esteemed description of food fish hitherto unknown in our country.’ A thousand young carp were, with the late Prof. Baird’s consent, brought from Washington to Newcastle in December, 1880. Some were planted in ponds in Manitoba, but apparently without result. Pacific salmon have also been introduced into the waters of the eastern provinces. In October, 1874, 20,000 Quinnet or spring salmon eggs were generously donated to the Newcastle hatchery by Prof. Spencer Baird; they hatched out in December, and were planted in April following. In 1874 a second lot was sent, and in October, 1875,

a third consignment of 80,000 (of which half were sent to Tadousac Hatchery), and in 1876, a further batch of 40,000, and in November a further shipment of 80,000. Other lots of many thousands were kindly given by the U.S. authorities, but the results appear to be decidedly inconclusive. A fish, 15 inches long, was described by Mr. Wilmot as being captured near the Newcastle hatchery, in 1876, in the creek there and regarded as a Quinнат. 'It was totally unlike the ordinary grilse or smolt of the stream, and was a male with matured milt,' said Mr. Wilmot, and he added, 'The first lot of California eggs was received at this place in the fall of 1874; this salmon must, therefore, have been two years old from the egg.' In July, 1877, several more, it said, were taken. The officer in charge of the St. John river hatchery, N.B., reported, in 1885, that there were grounds for regarding the planting of Pacific salmon (Quinнат) in 1881, as a success. He reported: 'Just as soon as the fishermen set their nets in spring they began to capture a strange, and to them, peculiar species of salmon with which they were unacquainted. This gave rise to inquiries and investigations, which resulted in the fact that they were California salmon, averaging some seven or eight lbs. in weight. Consequently they must have been some of identical salmon that were hatched in the Rapide des Femmes hatchery and put into the St. John river, four years ago last March.' In March and April, 1881, 35,000 young California salmon had been sent to this hatchery.

It is difficult to say, in most cases what have been the results of transplantation. We know that in New Zealand the results have been most unexpected. On the one hand the results have been grievously disappointing; on the other hand they have exceeded all anticipations. The planting of salmon has had no result whatever. Salmon were wholly absent from New Zealand waters, and in spite of repeated efforts to establish them, no successful results have yet been seen. With trout it has been wholly different. The small Scottish and English trout (*Salmo fario*) have become most abundant, and have attained dimensions that are almost incredible. A 2 lb. English trout is considered a fine fish, and a Thames trout weighing 14 lbs. was a unique capture, but these fish transplanted to New Zealand run from 7 lbs. to 15 lbs. commonly, and examples are not rare weighing 25 to 27 lbs. The planting of Pacific salmon has had no results practically in the eastern waters of this continent. Nor is there clear evidence of tangible results of attempts for over 30 years to establish Pacific species or even the Atlantic sea salmon in the great lakes such as Lakes Huron, Michigan and Superior.

In 1875 the late Mr. Wilmot reported that: 'Rumours have been circulated that a few strange fish were of late taken in some of the waters of Lake Huron. One in particular was related to me last autumn at Sandwich (when engaged in procuring whitefish eggs), to the effect that a fish weighing several pounds had been caught during the summer in the Detroit river, strongly resembling a salmon trout, but brighter in colour and longer, and more symmetrical in shape. This description would very well answer that of the true salmon, but in the absence of a personal inspection of this specimen it must only end in conjecture. Another case was reported in several of the papers that a specimen of the salmon tribe had been caught during the past year in the American waters of Lake Huron, and forwarded to Prof. Baird, of the Smithsonian Institute, who pronounced it to be a smolt of the true *Salmo salar*.

It would be most gratifying to have close research made into this subject by thoroughly prospecting, at the proper time, the Saugeen river with its estuary fisheries near Southampton.'

Within the last four or five years rumours have been repeatedly circulated that Pacific salmon also have been captured by Canadian and U.S. fishermen in the western waters referred to. Many of these specimens have been pronounced to be the steelhead salmon, the only true Pacific salmon (*Salmo gairdneri*), as that species and quinnat, sockeye, and rainbow trout, as well as the Atlantic species have been planted for many years. Most of the specimens were reported to have rich crimson coloured flesh, very tender and palatable; but Pacific salmon and trout having deep coloured

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flesh, cannot be described as either tender or palatable; they are on the contrary dry and insipid, but improve in flavour and texture when canned and over-cooked. The species on the Pacific coast which are really tender and palatable, are very pale in the flesh, and frequently quite white.

It is probable that these stray specimens are really remnants of 'plants' of Atlantic salmon.

Lobster hatching had been tried in Norway by Capt. Dannevig as early as 1885, and three years later Mr. Adolph Nielson commenced operations in Newfoundland. The United States also operated an artificial lobster hatchery. A fine building, 75 feet by 35 feet broad, was erected at Caribou harbour, near Pictou, N.S., and began work in 1891. A duplex pump and twenty horse-power steam engine, draws salt water from the bay, and a wharf running out to 20 feet depth of water, enables tugs to come alongside with supplies of lobster eggs obtained by the hatchery officers at the canneries. The eggs, it may be mentioned, are carried attached to the swimmerets in bunches, under the body of the female lobster. Ripe and well-developed eggs are selected, and are known by their paler colour as compared with the deep green or black of the newly extruded eggs. With a spoon, the hatchery operator scrapes off most of the eggs, leaving some still adhering, including some that are unavoidably crushed or burst. Having visited several of the lobster canneries, and picked out egg-bearing lobsters sufficient to give him an adequate supply—the lobsters, of course, being alive and newly brought in from the trapping grounds—the operator at once conveys the eggs in buckets on board a tug to the hatchery, places them in upright jars or vases, slightly wider than whitefish jars, where they are kept rolling about by rapidly circulating sea water until they hatch. At a temperature of 56° or 58°F, they may hatch out in 24 hours; but they frequently take fourteen or fifteen days, if the temperature is lower and the eggs are not advanced in development. At a temperature of 40° or 50°F. lobster eggs take many months for the incubation process, but so favourable are the conditions at the Bay View hatchery, Caribou harbour; that the annual operations are frequently over in five or six weeks in May or June. The young fry like little active shrimps, swimming head foremost in contrast to the adult lobster, are so fiercely cannibalistic that they must be planted at once. They are conveyed in barrels on board a tug, each barrel having a square lid cut out, at the side which is uppermost, for aeration, and the young lobsters are lifted by scoops or dippers, and scattered in the surface waters 3 to 10 miles from land. The method of scattering them by means of a hose pipe at the stern of the tug was not successful, the delicate fry being injured. Lobster fry are never found close inshore, but are pelagic in habit, and frequent the surface of the sea many miles from land. The methods in vogue at the Canadian lobster hatcheries* appear admirable, and should ensure in due time, beneficial results for the lobster fisheries along the Atlantic coast.

Another effort to increase the supply of lobsters on the Atlantic coast has been a matter of experiment for three years at Fourchu on the Cape Breton coast. The lobster commission, 1898, had in their report (p. 33) favoured the reservation of lagoons where seed lobsters might be impounded, after purchase from the fishermen or the canneries, and liberated when the close season commenced. In 1903, the department arranged with Mr. H. E. Baker, the well-known lobster packer, to have an experiment made, and an inclosure 380 feet by 167 feet, divided into smaller pounds, was secured on the south side of Fourchu harbour. The bottom consists of gravel, sand and rock, while through the walls 9 feet high, small apertures, 1 or 2 inches diameter, permit the ingress and outflow of abundant sea-water. Fifty thousand lobsters bearing eggs have been purchased and placed in these ponds and fed every third day upon chopped herring. After being impounded in May, June and July, they were replaced in the sea one and a half to two miles from shore. It is estimated that nearly a thousand

* Five lobster hatcheries are in operation in Canada, viz.: Pictou, Canso, N.S., Shemogue and Shippegan, N.B., and Charlottetown, P.E.I.

millions of young lobsters would be hatched out from these 'berried' female lobsters, lobsters which would otherwise have been canned, and their eggs and fry destroyed. Such a method involves a serious expenditure especially if it be extended to all parts of the coast; but of its effectiveness there can be no doubt. Mr. Baker has adopted the method of confining lobster fry in a floating inclosure in which a mechanical arrangement keeps the water actively moving as previously tried by some U.S. experts.

For the sake of clearness a brief summary of some of the features of fish-culture in Canada may be referred to in a concluding paragraph:—

(1) Fish of supreme commercial importance are mainly hatched, hence species, which are chiefly valued for sport only, have a subordinate place in Dominion fish-culture.

(2) Eggs, the hatching of which is difficult or hazardous, e.g. maskinonge, sturgeons, &c., are not included. Results, commensurate with the expenditure of public money, are problematical in the case of such species.

(3) As far as possible all parent fish are returned alive to the water after spawning.

(4) Salmon are impounded in tidal ponds for many months prior to the breeding period in the fall. They cease to feed on entering the mouths of rivers, and the sea water keeps them free from fungus and disease. Lake trout and whitefish also, are kept in pens or pounds for a few days before being artificially spawned, while black bass are kept in nesting ponds and hatch their young naturally. Lobsters, too, as in Cape Breton, are kept in retaining ponds.

(5) Fry are distributed gratis on the applications being officially approved, and the government bears the expense, wholly or partially, of shipment and planting.

(6) Lastly, the fry are all practically shipped in the recently hatched condition (three days to three weeks old). This is unavoidable when vast quantities, tens of millions, are handled. Retention of the fry would involve great expense and serious loss by death, and all the applications could not be filled.

It is hardly open to dispute that the planting, year after year for over 30 years, of countless numbers of young fry of valuable economic fishes must have vastly benefited the waters of the Dominion.

The hatching of cod, mackerel and other marine fishes has not so far been attempted in Canada. The eggs and fry of these fishes are not so favourable for the methods of artificial culture, and the vast numbers produced by each spawning female (a single cod shedding 9 to 10 millions of eggs each season), the extremely delicate pelagic character of the eggs, and the futility of handling successfully the fry, are the reasons which have deterred the government from taking up this work. The public, frequently, do not realize the conditions necessary for successful results. Hatch plenty of fish and plant them, is the course too frequently regarded as necessary. Not long ago, indeed, the view was widely circulated that a great salmon canning industry might be created in Prince Edward Island, parallel to that on the British Columbia waters, if only the government would plant salmon on a sufficiently large scale.

'The chief resources of Prince Edward Island,' said one authority 'are agriculture and fishing. Our inland fisheries have hitherto been neglected. But with our bays, rivers and lakes teeming with salmon and trout, the resources of our province would be materially increased. There is no reason why salmon canning cannot be successfully carried on in this province. British Columbia is reaping a fortune from this industry. And it is an undisputed fact that our waters, too, are adapted for the thriving of the salmon if proper steps were taken to foster the industry. Our provincial laws for the regulation of fishing should be improved. Hundreds of thousands of salmon fry have already been deposited in Vernon river, Murray river, Morrell river, Wheatley river, Naufrage river, and in streams in the vicinity of Kensington and Cape Traverse. And all this is but a stepping stone to the development of an industry which might give employment to hundreds of our people and rich returns to the province.' This

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was much too sanguine an outlook. Fish culture might, in time, help the fresh fish trade in salmon and trout, but it is altogether too much to expect that it can build up a business requiring such a wholesale slaughter of fish as canning. If Canadian fish-culture is doing anything to keep up the supplies of fish in our salmon rivers, our great lakes and inland streams, it is doing much. By introducing western species into eastern waters and *vice versa*, it may do more, and we may therefore be content to permit the illimitable ocean, open to all the fishing fleets of the world, to be recuperated by the unassisted methods of Nature herself.

III.

THE SCOTTISH HERRING CURING SCHEME, 1905.

By JOHN J. COWIE, LOSSIEMOUTH, SCOTLAND.

With Explanatory Preface

By Professor E. E. Prince, Dominion Commissioner of Fisheries, Ottawa.

PREFACE.

In an article which I contributed to the *Pacific Fisherman*, January, 1906, on the Canadian fishery resources of the Pacific coast, I pointed out that no reason exists why Canadian fishermen and packers 'should not put up as large a pack of the best herring as Scotland, which yields annually 250,000 to 350,000 tons of herring, valued, when pickled and ready for market, at no less than \$5,000,000 to \$6,000,000 per annum.' My remarks would apply to the Dominion herring fisheries generally, though I was referring to British Columbia at the time. I remarked that previous attempts to produce the best grade of pickled herring had resulted in partial success only as the fish packed in most excellent barrels brought, as a rule, \$4 per barrel, whereas Scottish and Norwegian herring sold in the same markets for \$11 or \$12. I have known on the Atlantic coast instances of the sale of large quantities of pickled herring at \$1.50 to \$2 per barrel, and for this very low price there are good reasons, as any one who has knowledge of the great herring industries of other countries is well aware. A New Brunswick fisherman nearly twenty years ago expressed the matter strongly, though unfortunately his criticism was well-founded, when he said:—

'Our fish are put up in a most shameful way. Most of the fishermen use more salt than is needed. One object is to cheat; the other is careless neglect. The fish remain so long out of the water before they go in the salt that it is impossible to cure them. Then the fishermen will fill the barrel half full of salt, under the mistaken idea that the injury done in this way will be remedied, and that the fish will be all right. Our barrels are got up cheap—45 cents for large and 25 cents for half barrels. They are made of poor stuff—staves too thin, with poor hoops. There is not much money in the herring trade for the honest fisherman, as bad fish bring the same price as the good. For that reason the fisherman is careless. We put up a lot of fish last year (1888) well cleaned, washed, good and sweet, 100 lbs. in each half barrel, with half a bushel of salt, and we only received 5 cents a barrel more for them than those who put up bad fish. In fact, the fisherman is not encouraged. The fish merchant buys of the fisherman in large packages; then he re-packs into half barrels, making a gain in quantity, and so the consumer is cheated right and left.*

The reputation of Scottish, Norwegian and Dutch herring has only been secured and retained by a scrupulous adherence to certain rules, neglect of which would seriously injure the whole industry. As is well known the bulk of the European herrings are cleaned and cured on shore, only about one in one hundred barrels being cured on board vessels, and then chiefly when the vessels are fishing in sheltered inlets or lochs

* Report of Dep. of Mar. and Fish. (Fisheries) 1889 Part IV. p. 7.

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along the shore, while of the total catch of herring the returns show that over 80 per cent are put up as pickled herring, only about 3 per cent being prepared as split and smoked or 'kippered' herring, about 1 per cent being packed in tins or canned, while only $\frac{1}{4}$ per cent were sold as bloaters or as 'red herring.'

Mr. Cowie referred to the different kinds of herring recognized in the markets of the world in his special report last year. Under the system of official inspection and branding carried out in Scotland five different grades or qualities of cured herring are distinguished. The 'matties' or 'matjes,' which are fat, well flavoured fish, having the roe and milt not developed, bring the highest prices in the coveted Russian markets, these, lightly salted, being in great demand. The German and Austrian markets have a preference for more heavily salted, harder, firmer herring. On the average probably one-tenth of the enormous British herring pack consists of 'matjes,' while one-third consists of 'fulls,' or herring with the roe and milt very large, only one-third of the pack are 'mat. full'; about one-twelfth is of the special grade branded 'La full,' whereas about one-fifth are 'spent' or the inferior spawned herring. Of course the proportion varies from year to year and there has been a notable increase in the quantity of barrels of herring not bearing the government brand. But whether branded or not, the demand for herring of good quality properly cured and packed is increasing and in most seasons is far in excess of the supply.

An inferior fish, however, is preferred in some of the markets as, for instance, the West Indies. 'A large trade is carried on in lean fish' reported one of the department's experienced inspectors (Mr. Hockin) some years ago, 'which being devoid of fat, keep well in hot climates, and the fat July herring are not sold for the same trade. While under government inspection, the lean fish would be branded inferior, it is, for its particular trade, a No. 1 fish.'

Mr. Cowie and his staff have now put up all the various classes or grades of herring recognized by the trade and these Canadian fish, Scotch cured, have been placed on the market, and have gained the approval of the best authorities on this continent. The main object of the scheme has therefore been abundantly fulfilled. It has been proved beyond question that Canadian herring, handled and cured according to the best Scotch methods are not inferior to the fish taken off the British coasts and, indeed, have gained the first place in the best markets of the world. The herring were mainly caught by the Steam Drifter No. 33, purchased by the government for the purpose of this scheme, but a proportion of the fish were bought from fishermen (about 200 barrels) in the locality where the staff was at work. The chief difficulties with the locally bought fish was that they had the scales, as a rule, largely removed by careless handling, and were often too long before being placed in the hands of the staff. The Nova Scotia 'matjes' realized the highest prices obtainable. As a rule they sell for more than 'fulls'; but the demand for the latter is vastly larger and more general. The barrels of 'fulls' were highly approved by the fish buyers who saw them. They were the first N.S. 'full' herring cured in the Scotch way that had ever been placed on the United States' markets, and they created a most favourable impression and brought the following prices:—'Ex. lar. fulls,' \$9 to \$10; 'lar. fulls' and 'fulls' brought \$8.50 to \$10 (\$4.25 to \$5 per half barrel); and 'medium full' and small realized \$8 per barrel.

The object lesson has been given; the aim of the experiment, to prove that Canadian herring are equal to any other herring in the world, and will bring the highest market prices, has been achieved, and the result has exceeded the most sanguine hopes of those who initiated and supported the experiment. As the government official responsible for recommending, arranging and supervising the scheme, I confess that my anticipations have been realized. I felt that if Canadian cured herring have ranked lowest in the scale in the great markets the fault lay, not with the fish, but with the methods of handling, curing and packing them. It remains now to apply the lesson taught by the experiment and to circulate as widely as possible full instructions to the fishermen and others on both the Atlantic and Pacific coasts. The herring put up by the staff under Mr. Cowie on the B.C. coast surprised all qualified judges by their

splendid qualities. It is necessary therefore that in addition to printed instructions there should be brief practical lessons by the staff at as many points as possible on both coasts. Thus the fishing population and the curing firms may be, without loss of time, induced to cure herring which has realized not 75c. to \$2 per half barrel, but \$5 to \$6. Our herring fishermen would find their earnings rapidly increase if the cured herring of Canada were thus improved by the methods adopted by Mr. Cowie. It is stated, on authority, that the earnings of the fishermen from Mr. Cowie's own town, Lossiemouth, in Scotland, exceeded \$2,000 for each crew during the short herring season on the English coast, after their own Scottish fishery was over.

On the Pacific coast the greatest interest has been aroused and a leading B. C. journal, calling attention to the presence at Nanaimo of the Scottish staff said:— 'An industrial movement of prime magnitude in connection with the exploitation of the wonderful resources of this magnificent province is now in progress at Nanaimo, where Mr. Cowie, the Scottish herring expert, assisted by some lassies from Auld Scotia, skilled in the art of handling fish, is giving demonstrations of what may be done in the matter of improved methods in packing and curing. With the knowledge that the annual 'run' of herrings in Nanaimo harbour and vicinity is of tremendous size, and the fish of prime quality, it will be readily seen that with the adoption of improved methods in packing and handling the fish, a great industry will be launched, one, in fact, which will be only of slightly lesser importance than the salmon canning industry. A great market for herring in its cured form exists in Germany, France and Russia, not to mention the growing markets in Australia and the Orient; and if it can be demonstrated that the Nanaimo herring can be cured in as attractive a fashion as the Nova Scotia variety, it would appear that birth will be given very shortly to another very important provincial industry.'

Indeed the packing of Scottish cured herring on the B. C. coast has been so rapidly advanced that the Nanaimo Fisheries Co. recently shipped 150 barrels to the eastern states, upon which a local newspaper remarks:—

'In a few days now Nanaimo herring will be tickling the palates of the connoisseurs in the æsthetic homes of New York.

To-day the Nanaimo Fisheries Company shipped a carload of its famous pickled herring to the metropolis.

The fish, some 150 barrels in all, or approximately 50,000 pounds, is being taken by the steamer *Squid* to Vancouver to be loaded on train there.

The shipment is the famous Scottish brand, put out by this company and which, although it has only been in the market a short time, is being much sought after, and commands a very good price.

The firm originally put up the Viking and the Thistle brands, but it was found that the Viking brand was put up by a New York firm also, and that the Thistle brand was the name of a brand prepared by a Scottish firm.

The brands that they have adopted now are the Sea King, and the Scottish brand mark, which was designed by expert Cowie, when he was here.

It speaks well for the standard of the fish as prepared by this Nanaimo company when they can ship clear to the Atlantic coast and in point of quality compete with Atlantic herring.'

The details of Mr. Cowie's season's work are given in his report which follows these remarks; but it may be stated that owing to a slight break-down on the liner, on which the staff sailed to Halifax, that city was not reached until May 17. About a week later the steam drifter was in full operation taking on May 25 her first catch of 40 barrels of herring at Canso. From that date until July 12, the staff were at work at Canso. On July 15 preparations were made to move to western Nova Scotia, and on August 1 the nets were put into the water off Clark's harbour, and catches of 'full' herring were made until the end of the month. On August 14, the steam drifter No. 33 went to Clark's harbour, where part of the staff, including three of the Scottish girls and Mr. Wm. McBean, of Halifax, formerly of Aberdeen, was temporarily authorized to super-

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vise the work. On September 13, Mr. Cowie, Mr. Cumming, the cooper, and three of the girls attended the annual Halifax exhibition, and demonstrated to large crowds the Scotch mode of handling and curing herring. On October 25, the same staff, Mr. Cowie, the cooper, and three girls, left Yarmouth for British Columbia, and early in November were busily engaged with the curing of B. C. herring at Nanaimo. Two firms were already making trial efforts to put up a superior class of cured herring, and Mr. Cowie received much aid and encouragement in the course of his experimental pack, and a number of capitalists and interested persons connected with the fisheries watched with interest the details of the work, as it proceeded in the curing sheds on the Nanaimo wharfs. The Nova Scotia herring were declared by the experienced representative of the *N.Y. Fishing Gazette* to be 'firm, fat and a good colour, with the peculiar sheen of the Scottish pack, well-graded and uniform.' The British Columbia herring handled by Mr. Cowie at Nanaimo were also of most excellent character being, as he points out, 'of the "full" variety, equal to the "full" grade of the Atlantic coast, and not exceeding 11 inches long.' On the Pacific coast the herring industry is not scattered as on the Atlantic coast, but centres at certain important points. This is an immense advantage, and facilitates the success of such an experiment as that in Mr. Cowie's charge. Further, the fishermen, unlike the Maritime Province men, confine themselves to actual herring fishing. In Scotland and in Norway the fishermen devote their time to capturing the fish and delivering them to the curing staffs on shore, and if this system is carried out on all our coasts the herring industry will assume the character of this great fishery in other countries. To be landed in the best and most satisfactory conditions for curing, speed and care are necessary. Some of the herring brought to Mr. Cowie, as he points out, were not landed in a satisfactory condition, 'many of the fish were landed minus scales thereby losing that silvery sheen which they should have even after they are cured.'

Systematic curing on shore not by fishermen, but by curing firms, employing qualified 'gutters,' 'curers,' 'packers' and 'coopers' will ensure the necessary care and skill, and secure ready sale for Canadian herring in the best markets. The processes of cleaning, salting and packing cannot be done by inexperienced persons. The processes, as Mr. Cowie states, are : first salting when the fish are brought in fresh from the fishing grounds; gutting or removal of the 'gib' and part of the entrails; grading the fish; rousing; packing in neat tiers in barrels; dating or branding; first filling; second filling up; repickling. The quality of salt and the right quantity and proper mode of salting are fully referred to in Mr. Cowie's report.

If the experiment carried out under government auspices, with signal success, acts as a stimulant to firms engaged in the fishing industry to raise the standard of Canadian pickled herring it will have achieved more than can be estimated.

Over one hundred years ago a Scottish author said:—

'From the irregular manner of curing herrings at that time on the Scottish coast, no progress of any importance had hitherto been made. Although abundance of fish might have been caught, the ignorance or dishonesty of curers in preparing inferior fish, put up in unfit, inferior packages, with inferior salt, prevented herrings from being received with favour either at home or abroad.

'At that time Scotch herring were generally cured by the fishermen themselves, and that being the case, it could not be expected that the work would be well done.'

There are, of course, special conditions in different markets which cannot be ignored by herring curing firms. As already pointed out, the West Indies have demanded a cured lean or 'poor' fish, owing to its superior keeping qualities as compared with cured fat herring. In some cases the description of package adopted is important. The Mexican market, one very accessible to Canadians, requires fish to be put up, not in large barrels, but in quarter barrels, or even in small kits. For these small packages there is a great and increasing demand. But in such markets as those

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of New York and Boston, the demand is, above all, for the best Scotch-cured herring from Britain. This month (January) the following quantities were imported into the two cities named:—

		New York.		Boston.	
		Lbs.	Value.	Lbs.	Value.
Herring from	Great Britain.	587,040	\$19,147	154,000	\$5,720
"	Norway.	116,324	2,974	28,660	1,010
"	Netherlands.	444,109	21,256	8,000	438
"	Nova Scotia.	108,955	2,682	328,300	2,954

It has now been demonstrated that improved methods have given Canadian herring a status equal to the best cured herring in the markets; but the whole history of the herring industry of Scotland, in its earlier struggles, and its later successes, shows that well cured herring will always find a market, and that stagnation in the trade is generally due to the action of careless, indifferent, ignorant, or dishonest curers.

So it will inevitably be in Canada, and it is open to our fishing population to excel in this great and remunerative industry

E. E. PRINCE,

Dominion Commissioner of Fisheries.

THE SCOTTISH HERRING CURING EXPERIMENT IN CANADA, 1905.

BY MR. J. J. COWIE, LOSSIEMOUTH, SCOTLAND.

I have the honour to submit my report upon the operations of the Scottish herring curing staff, under my charge during the past season. Following up the initial experiment authorized by the Department of Marine and Fisheries, the work of capturing and curing herring was not restricted to one portion of the coast, but was extended to include other areas on both the Atlantic and Pacific coasts of Canada during the year 1905.

Operations were commenced at Canso and continued at Yarmouth and Clark's harbour, Nova Scotia, and Nanaimo, British Columbia.

The staff consisting of three fishermen, one cooper and six girls, left Scotland on May 7. A slight breakdown in the machinery of the steamer on which the staff sailed, was the cause of some delay at Glasgow till repairs could be effected.

Halifax was reached on May 17, and Canso on the 19th, and steps at once taken to put the drifter 'Thirty-Three' into fishing order, and to have things in readiness for curing on shore.

In addition to the three fishermen from Scotland, an engineer, a fireman, and three other Canadian fishermen were engaged at Canso, N.S., to complete the crew of the 'drifter' for fishing.

All the necessary preparations having been completed a start was made for the fishing grounds on May 25, and the next day the 'drifter' returned to port with 40 barrels of herring.

Operations were continued at Canso, from that date until July 12.

The fishing grounds tried being those from 10 to 40 miles off the coast, ranging from Isaac's harbour, N.S., to Louisburg, C.B.

The highest single night's catch at Canso was 84 barrels and the total, 166.

As last year, dog-fish once more struck in very plentifully about June 20 and practically took possession of all the fishing grounds.

The herring caught this year again on that part of the coast proved to be of the 'matje' class, unfortunately a large proportion of these were of a small size and had to be disposed of for bait to Lunenburg and local fishermen.

The Canso 'matjes' were well received in the New York market last year, and the

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reputation they then gained has been more than maintained this year, for, as you will observe, by the account sales, the first consignment sold for \$7 per half barrel, and the next at \$7.50.

The following is a report by Messrs. Woodward & Son, herring merchants, New York, on receipt of the first consignment of Nova Scotia 'matjes' for 1905:—

'We have to report to you on first consignment of 26 half barrels of matje herring. They look to us to be very well packed, and we do not see how any improvement could be made on the cure or the pack.

'We are endeavouring to sell these to a number of our customers as we want the general trade to become acquainted with them. We are trying to get \$7 a half barrel for them, but we may possibly have to take less. The only fault the trade finds with them, is that the packages do not seem to be quite so full as they might be. One or two of the buyers expressed themselves as being afraid that they would get soft on the bellies, but we ourselves do not see how you could have improved very much on the pack or on the cure, and we call them a choice parcel.

The entire trade generally are much prejudiced against any herrings that are cured in Nova Scotia in the Scotch way. We want to overcome this prejudice and for this reason we want to have enough of the buyers have your goods, as we feel sanguine that they will give satisfaction.'

The prices obtained, namely: \$7 to \$7.50 per half barrel, and the requests made for more of those 'matjes' abundantly prove that the trade is satisfied with the quality, and wants fish of that character.

By the end of July the demand for 'matje' herring practically ceases, after which time the more keepable 'full' herring is in demand.

The 'matje' herring is a fat herring having no milt or roe. 'Full' herring are herring in good condition, though not very fat, with the milt or roe almost fully developed.

It was decided therefore to move the staff to a point on the Bay of Fundy, where I was assured 'full' herring could be got in abundance. After making all due inquiries when visiting the spot, I concluded that Yarmouth, with its central position and its facilities for shipping to the United States, would make the best headquarters for operating from on that part of the coast, with a branch at Clark's harbour.

On July 15, I therefore made a start to move the curing stock and fishing gear from Canso to Yarmouth, two trips of the drifter being necessary to accomplish this, and by the end of the month the whole staff and outfit were in order for work at Yarmouth.

To take charge of the work at Clark's harbour I employed, with your permission, Mr. McBean, a Scotch cooper, who happened to be in Halifax, at this time. He arrived in Yarmouth on August 4, and after receiving instruction proceeded to Clark's harbour next day.

As the staff of girls was now to be divided, and to cope with the expected increased work at Yarmouth, I also added to the staff the Scotch woman who remained in Canso last year. I further engaged a pilot belonging to Clark's harbour to insure the safe navigation of the steam drifter amongst the fogs of the Bay of Fundy.

On August 14 I sent the drifter to Clark's harbour with three of the girls and a supply of barrels and salt, retaining four at Yarmouth. A continuous week of fog had prevented me from sending them along sooner.

On the night of August 1, the nets were put in these waters for the first time, and next day 24 barrels were landed.

Part of this catch consisted of small fish, but the very next day 10 barrels of very fine 'full' herring were landed, and on August 8 another 20 barrels of the same quality were got. There was then a scarcity of fish until August 24, when another 20 barrels were caught, and again on August 29 another 12 barrels, after which only small lots were landed, making in all 100 barrels.

All through the season on this part of the coast, operations were considerably hampered by the occasional dense fogs, for which the Bay of Fundy is famous, and also by harassing hordes of dog-fish, not to mention sharks, 14 of which were tangled up in the nets one night.

The fishing was all done on the off-shore grounds at a distance of from 16 to 30 miles. After September 1, the herring seemed to move very close in amongst the rocks, and into places where it was impossible to drift with a large vessel, so that the local fishermen began now to get herring in fair quantities.

It must be pointed out, however, that these herring when they move in to the shore, are seeking the shallow waters to spawn, and by this time, have the roe and milt in a pretty ripe condition, which deteriorates the quality of the fish very much indeed.

For the purpose of augmenting the catches of the drifter you instructed me to purchase the herring catches of the local fishermen, and out of 20 boats I managed to secure 186 barrels between the two places, during the month of September.

I may here mention that the herring received from the local fishermen were not landed in an entirely satisfactory condition. Owing to the want of room in their small boats for the proper handling of their catches, many of the fish were landed minus their scales, thereby losing that silvery sheen which they should have even after they are cured. As was anticipated, the herring caught in and around the Bay of Fundy were of the 'full' class, and of the quality then wanted. All the various classes of 'fulls' recognized by the trade were represented in the catches, namely:— 'Medium full,' 'full,' and 'large full,' that is, herring containing milt or roe, and of not less than $9\frac{1}{2}$, $10\frac{1}{2}$ or $11\frac{1}{2}$ inches respectively, as measured from the point of the nose to the tip of the tail. There was also quite a large proportion of the herring over 13 inches in length, and which were designated 'extra large full,' making in all four distinct grades.

Of the total quantity of full fish cured $\frac{3}{4}$ Extra Large Fulls, $\frac{4}{8}$ Large Fulls, $\frac{5}{2}$ Fulls, and $\frac{1}{4}$ Medium Fulls, were sent to New York, $\frac{2}{2}$ Fulls to Halifax, 97 kits to Yarmouth, and 200 kits and 5 quarter barrels to Montreal.

The prices made in New York were, for 'Ex. Lar. Fulls,' \$9 to \$10 per barrel, 'Lar. Fulls and Fulls,' \$4.25 to \$5 per half barrel, and 'Medium Full,'—a very small herring—\$8 per barrel.

The 'Fulls' in Halifax brought \$3 per half barrel on the spot, and in Montreal, \$1.50 for quarter barrels and 60c. for kits. In Yarmouth the kits made 50c. and 70c. each. The herring which were packed in kits were 'spent' fish *i.e.* herring which had shed the milt or roe.

It will be observed that the price obtained for the 'full' fish is not so great as that received for 'matjes,' but this is also the case with 'fulls' and matjes sent into the markets from Scotland.

The supply of, and the demand for matjes is comparatively limited, whereas the supply of 'full' fish just before spawning time is greater and surer, and the demand almost unlimited, at a figure naturally lower than that given for the less plentiful matje.

These being the first Scotch cured Nova Scotia 'fulls' to be placed upon the American market, it is highly gratifying to be able to say that they as well as Nova Scotian 'matjes' have been well received, and especially so when compared with the price of Scotch cured Newfoundland 'fulls' in the same market.

The following report, taken from the New York *Fishing Gazette* of September 2 speaks for itself:—

'There has been an arrival the past week in the metropolis of an experimentary consignment of Lar. Full. Scotch cured Nova Scotia herring to the order of a well-known importing firm. In order that there might be no possible misunderstanding relative to the landing of these fish, of which so much comment has been made, a repre-

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sentative of the '*Gazette*' attended the examination made by the consignees, and a well-known expert, from the Hebrew quarter, was also present. The statement given out for publication is as follows:—

A careful examination has been made by us of the sample consignment of Scotch cure forwarded us from the Yarmouth, N.S., fishery staff. We previously had received a consignment of 'matjes' from Canso which made a very favourable impression on us and were taken up by the trade at an equivalent parity to that ruling on Shetland fish although they were detected as of Canadian production. We can of course say nothing as to the market on the Lar. Fulls. now in question, but the quality of the stock is excellent.

The herring are firm, fat, and of good colour. In the pickle in which they were entered the peculiar sheen of the Scotch pack was noticed and the appearance of the top layers gave a most favourable impression. Removing entire staves and hoops after drawing pickle the pack held to formation denoting good care and understanding in barrelling same.

The stock was uniform and well graded throughout. The herring should command a good market in the United States if produced according to the sample sent us, but the trade is most particular and the consumer is the only party who can inform us as to whether the goods are acceptable.

These people want the best, nothing else suits their requirements and they are willing to pay for just what they get.'

In the beginning of September I was instructed to send part of the staff to give demonstrations in herring curing at the Halifax Provincial Exhibition which was to be held from September 13 to 21.

I, accordingly, with Mr. Cumming, cooper, and three of the girls, from Yarmouth, proceeded to Halifax on September 13—a supply of barrels and salt having been previously sent there.

Sufficient space was reserved in the fisheries building in which the staff demonstrated before large and interested crowds. Some difficulty was experienced in obtaining fresh herring for the purpose of 'gutting and packing,' however, Mr. Boutillier, of Halifax, was able to secure a few for us on two occasions.

Having anticipated this difficulty I brought along from Yarmouth a few half barrels of herring, already gutted and packed, so that in the event of fresh herring being unobtainable we, at least, could show how the barrels were finally filled up and finished off for market. As it turned out, however, we were in a position to show both the process of gutting and packing and that of filling up.

In the beginning of October it was decided to discontinue operations, as the herring were then spawning and getting into rather an unfit condition for curing.

By your instructions, therefore, the drifter was sent to Canso, there to be utilized in the collection of dog-fish for the government reduction works, and the staff paid off, with the exception of those required for the British Columbia herring curing scheme referred to in the department's fishery report last year, and who were employed in repacking the kits of herring for distribution in Yarmouth and Montreal, till the time of departure for the west.

Two of the Scotch fishermen and one of the girls went back to Scotland. The other Scotch fisherman took employment on the drifter at Canso. Two of the girls found husbands and homes in Canso and settled there.

On October 25, Mr. Cumming, the Scotch cooper, three girls and myself left Yarmouth for British Columbia via Montreal and Ottawa, and reached Nanaimo, B.C., on November 4.

The system of conducting the herring business on the Pacific coast is altogether different from that on the Atlantic seaboard. On the Atlantic coast each fisherman cures his own catch of herring, afterwards disposing of them to some local fish merchant. On the Pacific the fishermen simply catch the fish and sell them in a fresh state to local curers who have curing places on shore where the curing takes place.

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The curing firms own boats and nets and employ men to do the fishing. There are also a number of independent fishermen, however, fishing on their own account who, besides selling to the local buyers, send fresh herring direct to Vancouver and New Westminster each morning by steamer, but in no case do fishermen cure their own herring.

On arriving at Nanaimo, B.C., I found only two firms engaged in herring curing. As the season advanced, however, a 'kipper house,' and a wharf and shed for dry salting herring for the Chinese market, were erected, besides another curing place under construction for a Fraser river firm.

Herring were reported plentiful outside the harbour at Nanaimo about the beginning of November, but it was the middle of the month before they were got inside, and even then only on occasional nights.

Herring in phenomenally large quantities come right into the harbour about the end of November, and stay there for some months. It seems, however, that their movements during the latter half of November are somewhat erratic. They will come into the harbour quite plentifully for a night and then disappear for a few nights in succession, coming and going in this way until they finally come in to stay about the end of the month, although their flitting out and in has been known to continue till near Christmas.

The herring caught at Nanaimo are of the 'full' variety, the largest of which are equal to the 'full' grade of the Atlantic and never exceed 11 inches in length.

When herring began to come in fair quantities the local curing establishments were visited by the staff, where practical lessons in gutting, packing, salting and filling up, were given to the staffs of the local curers, each day on which herring were to be had.

The Scotch staff filled, in all, 32 barrels and 234 half barrels, in their demonstrations of the Scotch method.

An extraordinary amount of interest was shown in the work of the staff, not only by Nanaimo people, but by representatives of most of the salmon packing companies of the Fraser river as well, some of whom donned overalls and went to work gutting and packing along with the girls.

The members of the Dominion Fisheries Commission who were holding sittings in British Columbia, under the chairmanship of Professor Prince, visited the curing sheds with Mr. Sloan, M.P. and Mr. Ralph Smith, M.P., on November 24 and 25.

The results of marketing will not, of course, be known for some time yet.

Samples are being sent to Australia, New York, Canadian Northwest, and the Western States.

Besides showing the actual work of curing, I had the following instructions printed and distributed to all those interested in the industry in Nanaimo and Vancouver:—

INSTRUCTIONS FOR CURING HERRING IN THE SCOTTISH STYLE AT NANAIMO, B.C.

Fresh fish indispensable.—In the first place it is necessary to have herring perfectly fresh.

Sprinkling with salt.—As the herring are discharged from the boats they should be sprinkled with salt.

Gutting.—In gutting, the gills and gut must be taken clean away with a sharp knife, cutting just below the two upper fins, and the roe or milt left in the fish.

Grading.—There are two marketable grades amongst the herring caught in Nanaimo harbour, namely: what are known in Scotland as 'Full' and 'Medium Full.'

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1st grade.—The first grade, or 'Full' herring consists of herring of not less than $10\frac{1}{2}$ inches, measured from the point of the nose to the tip of the tail, and clearly showing the milt or roe at the throat when the gut has been extracted.

2nd grade.—The second, or 'Medium Full' herring consists of all herring under $10\frac{1}{2}$ inches, but not less than $9\frac{1}{2}$ inches, as measured from the point of the nose to the tip of the tail.

Rousing.—As the fish are gutted they are put into a tub, or any other suitable receptacle, and thoroughly turned over in, and mixed with salt, allowing as much salt to stick to each herring as possible.

Kind of salt.—For this purpose, what is known as 2nd Fishery Liverpool salt should be exclusively used.

Mode of packing.—After having been thoroughly 'roused' the herring are then lifted from the 'rousing tub' and packed in tiers in the barrels.

In packing, the fish are placed back down, kept close together, using three herring to stretch across the barrel, one at each side with their heads to the staves and one in the centre.

When the tier has been completed, two herring are placed on their sides, over the heads of the herring in the tier, with their tails crossed and their backs next the staves. The whole tier is then salted and the next tier packed across the one below it and so on until the barrel is packed full, each tier being salted separately. The gutting and packing takes place simultaneously.

Quantity of salt on tiers.—There is no fixed rule for regulating the quantity of salt to be used to each tier. This varies slightly according to the condition of the fish, the market to be cured for, and the length of time the herring are to be kept, and therefore must be necessarily gauged, accurately, by experience.

A safe guide, however, is to scatter as much salt on each tier as will nearly hide the bellies of the fish in the tier.

Kind of salt.—For the purpose of salting the tiers, California salt may be used, but 2nd Fishery Liverpool, is preferable for use on the tiers as well as for 'rousing.'

Dating and marking.—As each barrel is given to the packer to be filled, the date of filling, and the grade of fish to be packed, must be written, in pencil, on the bottom of the barrel, as for example:—Dec. 1-F. or Dec. 1-M.F., the letter F. denoting that the barrel contains 'Full' herring packed on December 1, while 'M.F.' denotes 'Medium Full' packed on the same date. The necessity for this appears later.

1st filling up.—On the third day after packing, the salt will be found to have dissolved a little and pickle seen almost up to the top tier. The herring will also have sunk two or three inches in the barrel.

On this day each barrel is filled up to the 'croze' with herring of the same day's pack, a little salt being added to the herring used in filling up, the head put in and made light, and the barrel laid to one side until the herring pined and matured the stated number of days before the final filling up and preparation for market.

2nd filling up.—On the twelfth day, counting from the day of first packing, a bung-hole is made in the side of the barrel, about three inches from the centre, that is, nearest the bottom end, the barrel up-ended and the head taken out. It is necessary to have some distinguishing mark, to know the head end of the barrel from the bottom.

The bung is then taken out and the pickle drained off as far down as the bung-hole. It will now be found that the barrel will take from two to three more tiers of herring

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to complete it. This is done by taking herring of the same day's pack, and grade, which are readily known by the marks on the bottom, already referred to, and packing them as before until the space is filled up, this time filling the barrel so that the top tier will be quite flush with the 'chime' and laying three herring straight on their backs, across the heads of the top tier, instead of two on their sides as in the case of the other tiers, after which the head is pressed in and made perfectly tight, then, as much of the original pickle as the barrel will now take is inserted through the bung-hole. The herring used for the final filling up, should be washed in pickle and very slightly sprinkled with salt, when in the tiers.

Repickling.—If the herring have to lie for some weeks after being finally filled, they should be supplied with pickle about once in two weeks.

With what has been seen of the actual work of the staff, and by adhering closely to the foregoing instructions, there can be no doubt about the Nanaimo curers carrying on herring curing, in future, in an improved and systematic manner.

While on the coast, I found that a deep and widespread interest was being taken in the work of the staff, and due appreciation of the government's action, in sending the staff to British Columbia to give object-lessons, was manifested on every hand.

On December 11 the staff left Nanaimo for the east, reaching Ottawa on December 16, and after being paid off, left next day for Scotland via Halifax.

GENERAL REMARKS.

The task of improving the system of herring curing in British Columbia was found to be an easy one compared to that of introducing the new system on the Atlantic seaboard.

This, in the first place, is owing to the fact that the herring trade of British Columbia, at present, centres at Nanaimo. Fishermen gather there from Vancouver and other places for the season's work.

In the second place, because curing was being done on lines somewhat similar to the Scotch system, by merchant curers on shore, who, being in direct touch with the markets, are alive to the necessity of exercising that care and skill in curing which will enable them to find larger and more remunerative outlets for the product, and, further, because a most desirable barrel, made of the best of wood and well hooped, is in general use there.

The real reason that the industry started out on lines akin to the Scotch, soon becomes apparent to the visitor to Nanaimo, during the season.

The enterprise in British Columbia is quite a new one, and the fishermen being mostly Scotch, many of whom I knew on the other side of the water, although they know little about curing, have nevertheless given the local curers some idea of how the industry is conducted in Scotland.

On the Atlantic coast, on the other hand, a little curing takes place, more or less, in almost every creek and cove along a coast line of some thousands of miles in extent, in the most deplorable of barrels, by the fishermen who are not in touch with the great cured-herring markets, and do not therefore know how to find an entrance to the best markets. Similar conditions existed in Scotland 80 or 100 years ago.

Signs are not wanting now, however, of an inclination on the part of fish merchants, on the Atlantic coast, to take up the curing of herring on shore.

Fishermen, in the western part of Nova Scotia especially, have expressed to me their desire, time and again, to be relieved of the necessity of curing, so that their time and skill might be devoted more to the catching of the fish.

As an example of the increased energy that fishermen would put into herring catching if relieved of the trouble and expense of curing, I may mention that as soon as

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I had started to buy fresh herring from the fishermen of Yarmouth and Clark's harbour, the members of one crew were so eager to get herring that they went to sea one blowy night, and so loaded their boat, that she went under in the choppy sea, the crew escaping in their dories.

The boats used at present, of course, are small, but if curers on shore established curing places, where fishermen could dispose of their catches fresh, larger boats with more nets, would be used and the supply of herring be more of a certainty than it now is.

Now that we have had an opportunity of curing and placing on the market all the various classes of herring, detailed instructions similar to those given to the trade in British Columbia, printed in both languages, could be distributed in the Maritime Provinces, by the department. This with flying visits of the staff to all places where it is intended to carry on this style of curing, will cause its adoption to become general and nearly simultaneous. Such instructions must differ somewhat, however, from those issued on the Pacific coast, owing to the greater number of grades of fish to be dealt with. The question of an improved barrel would also be dealt with and details given for its construction.

In curing 'matjes' to obtain the higher price, a very great amount of skill and experience is necessary. Many even of our Scotch coopers, are quite unacquainted with the curing of 'matjes.' The fish have to be mildly cured in such a way that they will retain their soft condition and at the same time be cured enough to keep good for months, and although regulations may be published for the guidance of the trade, I would strongly advise any firm which contemplates engaging in the curing of this class of fish, to obtain the services of a Scotch cooper who has had a thorough experience in 'matje' curing.

OTTAWA, December 23, 1905.



APPENDIX No. 1.

EXPENDITURE AND REVENUE.

The total expenditure for all Fisheries services, except Civil Government, for the fiscal year ending June 30, 1905, including Fishing Bounty, amounted to \$979,588.70 being within the appropriation by \$6,496.57.

The total net fisheries revenue, during the same period, from rents, license fees, fines and sales, including the *modus vivendi* licenses to United States vessels, amounted to \$90,988.

Service.	Expenditure.	Vote.
	\$ cts.	\$ cts.
Fisheries.....	104,966 13	105,300 00
Fish-breeding.....	144,419 24	150,000 00
Fisheries protection service.....	462,082 12	462,225 00
Fishing bounty.....	157,228 24	160,000 00
Miscellaneous expenditure.....	105,892 97	108,560 27
Total.....	979,588 70	986,085 27

The details of the above will be found in the Auditor General's report under the proper headings.

In addition to the above, the following summary shows the salaries and disbursements of fishery officers in the several provinces, together with the expenses for maintenance of the different fish breeding establishments throughout the Dominion.

Service.	Expenditure.
	\$ cts.
Fisheries, Ontario.....	4,294 60
" Quebec.....	6,769 16
" New Brunswick.....	25,253 16
" Nova Scotia.....	32,619 85
" Prince Edward Island.....	6,879 05
" Manitoba.....	2,800 64
" North-west Territories.....	7,003 55
" British Columbia.....	16,631 37
" Yukon.....	1,400 00
General account.....	1,314 75
Total.....	104,966 13

FISHERIES GENERAL EXPENDITURE.

This expenditure by provinces is subdivided as follows :—

	Amount.	Total.
<i>Ontario.</i>		
Salaries of officers.....	8 cts. 3,600 00	8 cts.
Disbursements of officers.....	694 60	
Total.....		4,294 60
<i>Quebec.</i>		
Salaries of officers.....	3,533 63	
Disbursements of officers.....	3,139 77	
Miscellaneous.....	95 76	
Total.....		6,769 16
<i>New Brunswick.</i>		
Salaries of officers.....	17,040 05	
Disbursements of officers.....	7,368 11	
Miscellaneous.....	845 00	
Total.....		25,253 16
<i>Nova Scotia</i>		
Salaries of officers.....	18,906 57	
Disbursements of officers.....	13,298 97	
Miscellaneous.....	414 31	
Total.....		32,619 85
<i>Prince Edward Island.</i>		
Salaries of officers.....	5,094 66	
Disbursements of officers.....	1,780 80	
Miscellaneous.....	3 50	
Total.....		6,879 05
<i>Manitoba.</i>		
Salaries of officers.....	1,714 50	
Disbursements of officers.....	950 79	
Miscellaneous.....	135 35	
Total.....		2,800 64
<i>North-west Territories.</i>		
Salaries of officers.....	3,771 30	
Disbursements of officers.....	3,142 25	
Miscellaneous.....	90 00	
Total.....		7,003 55
<i>British Columbia.</i>		
Salaries of officers.....	10,985 33	
Disbursements of officers.....	4,296 97	
Miscellaneous.....	1,349 07	
Total.....		16,631 37
<i>Yukon.</i>		
Salaries of officers.....		1,400 00
General account.....		1,814 75
Grand total.....		104,966 13

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FISHERIES GENERAL EXPENDITURE—*Continued.*

FISH-BREEDING.

Service.	Expenditure.	Total.
	\$ cts.	\$ cts.
Fish-breeding, Ottawa hatchery, Ont.	2,444 98	
" Newcastle " "	3,785 98	
" Sandwich " "	7,147 31	
" Quinté Bass Pond hatchery, Ont.	454 05	
" Tadoussac hatchery, Que.	2,572 74	
" Gaspé " "	2,345 95	
" Magog " "	1,773 65	
" St. Alexis " "	2,494 42	
" Lac Tremblant " "	576 40	
" Restigouche " N.B.	4,178 27	
" Miramichi " "	2,057 28	
" St. John River hatchery "	6,068 17	
" Shemogue " "	949 03	
" Shippigan " "	2,224 64	
" Bedford hatchery, N.S.	1,923 47	
" Margaree " "	1,433 07	
" Bay view " "	716 68	
" Canso " "	7,299 43	
" Selkirk " Man.	7,041 67	
" Fraser River hatchery, B.C.	9,956 67	
" Granite Creek " "	5,206 23	
" Skeena " "	6,312 08	
" Pemberton " "	1,705 35	
" Harrison Lake "	34,754 66	
" Rivers Inlet "	3,740 58	
" Lake Lester "	4,377 49	
" Kelly's Pond, P.E., Id.	3,447 75	
" Charlottetown "	3,366 02	
General account.	19,065 22	
		149,419 24

FISHERIES GENERAL EXPENDITURE—*Continued.*FISH-BREEDING—*Continued.*

SALARIES, ETC.	\$ cts.	\$ cts.
General account.....		19,065 22
<i>Newcastle Hatchery.</i>		
Salaries.....	1,406 62	
Miscellaneous expenditure.....	2,279 36	
Total.....		3,785 98
<i>Sandwich Hatchery.</i>		
Salaries.....	1,050 00	
Miscellaneous expenditure.....	6,097 31	
Total.....		7,147 31
<i>Ottawa Hatchery.</i>		
Salaries.....	1,550 00	
Miscellaneous expenditure.....	894 98	
Total.....		2,444 98
<i>Quinté Bass Pond.</i>		
Salaries.....	93 75	
Miscellaneous expenditure.....	360 30	
Total.....		454 05
<i>Tadoussac Hatchery.</i>		
Salaries.....	800 00	
Miscellaneous expenditure.....	1,772 74	
Total.....		2,572 74
<i>Gaspé Hatchery.</i>		
Salaries.....	600 00	
Miscellaneous expenditure.....	1,745 95	
Total.....		2,345 95
<i>Magog Hatchery.</i>		
Salaries.....	650 00	
Miscellaneous expenditure.....	1,123 65	
Total.....		1,773 65
<i>St. Alexis Hatchery.</i>		
Salaries.....	360 00	
Miscellaneous expenditure.....	2,134 42	
Total.....		2,494 42
<i>Restigouche Hatchery.</i>		
Salaries.....	1,100 00	
Miscellaneous expenditure.....	3,078 27	
Total.....		4,178 27
Carried forward.....		46,262 57

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FISHERIES GENERAL EXPENDITURE—*Continued.*FISH BREEDING—*Continued.*

	\$ cts.	\$ cts.
Brought forward.....		46,262 57
<i>Miramichi Hatchery.</i>		
Salaries.....	1,000 00	
Miscellaneous.....	1,057 28	
Total.....		2,057 28
<i>St. John River Hatchery.</i>		
Salaries.....	900 00	
Miscellaneous.....	5,168 17	
Total.....		6,068 17
<i>Bay View Hatchery.</i>		
Salaries.....	45 00	
Miscellaneous expenditure.....	671 68	
Total.....		716 68
<i>Shenogue Hatchery.</i>		
Salaries.....	177 00	
Miscellaneous expenditure.....	772 03	
Total.....		949 03
<i>Bedford Hatchery.</i>		
Salaries.....	1,366 64	
Miscellaneous expenditure.....	556 83	
Total.....		1,923 47
<i>Shippagan Hatchery.</i>		
Salaries.....	183 00	
Miscellaneous expenditure.....	2,041 64	
Total.....		2,224 64
<i>Margaree Hatchery.</i>		
Salaries.....	589 88	
Miscellaneous expenditure.....	843 19	
Total.....		1,433 07
<i>Selkirk Hatchery.</i>		
Miscellaneous expenditure.....		7,041 67
<i>Fraser River Hatchery.</i>		
Salaries.....	500 00	
Miscellaneous expenditure.....	9,456 67	
Total.....		9,956 67
<i>Pemberton Hatchery.</i>		
Miscellaneous expenditure.....		1,705 35
Carried forward.....		80,338 60

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FISHERIES GENERAL EXPENDITURE—*Continued.*FISH BREEDING—*Concluded.*

	\$	cts.	\$	cts.
Brought forward.....			80,338	60
<i>Rivers Inlet Hatchery.</i>				
Miscellaneous expenditure.....			3,740	58
<i>Lake Lester Hatchery.</i>				
Salaries.....	250	00		
Miscellaneous.....	4,127	49		
Total.....			4,377	49
<i>Kelly's Pond, P.E.I.</i>				
Miscellaneous expenditure.....			3,447	75
<i>Skeena Hatchery.</i>				
Salaries.....	1,000	00		
Miscellaneous expenditure.....	5,312	08		
Total.....			6,312	08
<i>Granite Creek Hatchery.</i>				
Salaries.....	750	00		
Miscellaneous expenditure.....	4,456	23		
Total.....			5,206	23
<i>Lac Tremblant Hatchery.</i>				
Salaries.....	347	50		
Miscellaneous.....	128	90		
			576	40
<i>Charlottetown Hatchery.</i>				
Miscellaneous.....			3,366	02
<i>Cunso Hatchery.</i>				
Miscellaneous.....			7,299	43
<i>Harrison Lake Hatchery.</i>				
Salaries.....	600	00		
Miscellaneous.....	34,154	66		
Total.....			34,754	66
			149,419	24

FISHERIES PROTECTION SERVICE—1904-1905.

	\$	cts.	\$	cts.
General Account.....			10,169	66
<i>Steamer 'La Canadienne.'</i>				
Wages of officers and men.....	8,584	12		
Provisions.....	1,837	49		
Fuel.....	2,121	90		
Repairs and supplies.....	1,608	78		
Miscellaneous expenditure.....	1,824	59		
			15,976	88
Carried forward.....			26,146	54

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FISHERIES GENERAL EXPENDITURE—*Continued.*FISHERIES PROTECTION SERVICE—*Continued.*

	\$	cts.	\$	cts.
Brought forward.....			26,146	54
<i>Steamer 'Curlew.'</i>				
Wages of officers and men.....	4,787	33		
Provisions.....	1,525	73		
Fuel.....	1,993	93		
Repairs and supplies.....	2,697	97		
Miscellaneous expenditure.....	491	91		
Clothing.....	342	00		
Total.....			11,838	87
<i>'Steamer Petrel.'</i>				
Wages of officers and men.....	4,067	52		
Provisions.....	1,525	43		
Fuel.....	1,089	24		
Repairs and supplies.....	17,533	51		
Miscellaneous expenditure.....	968	17		
Clothing.....	414	30		
Total.....			25,593	17
<i>'Steamer Constance.'</i>				
Wages of officers and men.....	7,789	32		
Provisions.....	3,386	79		
Fuel.....	6,486	62		
Repairs and supplies.....	3,293	12		
Miscellaneous expenditure.....	1,630	48		
Clothing.....	427	40		
Total.....			23,013	73
<i>'Schooner Osprey.'</i>				
Wages of officers and men.....	2,564	68		
Provisions.....	1,207	67		
Fuel.....	71	04		
Repairs and supplies.....	911	57		
Miscellaneous expenditure.....	549	13		
Clothing.....	452	80		
Total.....			5,756	89
<i>'Schooner Kingfisher.'</i>				
Wages of officers and men.....	2,932	59		
Provisions.....	1,512	66		
Fuel.....	214	93		
Repairs and supplies.....	2,289	45		
Miscellaneous expenditure.....	769	77		
Clothing.....	633	55		
Total.....			8,352	95
<i>'Georgia.'</i>				
Wages of officers and men.....	3,020	00		
Provisions.....	431	16		
Fuel.....	710	89		
Repairs and supplies.....	806	87		
Miscellaneous.....	54	40		
Total.....			5,023	32
<i>'Swan.'</i>				
Wages of officers, &c.....	1,800	00		
Provisions.....	151	34		
Fuel.....	339	60		
Repairs and supplies.....	712	25		
Miscellaneous.....	38	05		
Total.....			3,041	24
Carried forward.....			108,766	71

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FISHERIES GENERAL EXPENDITURE—*Concluded.*FISHERIES PROTECTION SERVICE—*Concluded.*

	\$	cts.	\$	cts.
Brought forward.....			108,766	71
<i>'Kestrel.'</i>				
Wages, &c.....	11,556	64		
Provisions.....	7,356	75		
Fuel.....	2,176	50		
Repairs and supplies.....	5,142	01		
Miscellaneous.....	800	26		
Clothing.....	1,097	50		
Total.....			28,219	66
<i>'Falcon.'</i>				
Wages, &c.....	1,617	71		
Provisions.....	664	65		
Fuel.....	878	05		
Repairs and supplies.....	2,310	31		
Clothing.....	149	75		
Miscellaneous.....	199	70		
Total.....			5,820	17
<i>'Vigilant.'</i>				
Wages of officers and men.....	2,636	99		
Provisions.....	112	70		
Fuel.....	314	85		
Repairs and supplies.....	83	40		
Miscellaneous.....	1,190	75		
Total.....			4,338	69
<i>'Canada'</i>				
Wages.....	10,357	58		
Provisions.....	7,435	56		
Fuel.....	7,720	30		
Repairs supplies.....	5,615	11		
Clothing.....	3,118	20		
Miscellaneous.....	15,988	77		
Fisheries Intelligence Bureau.....			50,235	02
New steamer to replace <i>'Acadia</i> and <i>'Petrel'</i>			2,643	43
Less amount paid by Customs Department for St'r. <i>'Constance'</i>			485,095	85
Net total.....			23,013	73
			462,082	12
MISCELLANEOUS.			\$	cts.
Building fishways.....			2,994	19
Legal and incidental expenses.....			1,983	50
Canadian fisheries exhibit.....			3,993	66
Expenditure in connection with the distribution of fishing bounties.....			5,599	31
Surveys of oyster beds.....			5,256	02
Issuing licenses to United States fishing vessels.....			460	27
Cold storage.....			24,334	13
Conservation's Deep Sea Fisheries.....			24,745	76
Georgian Bay biological laboratory.....			823	81
Investigating herring fishing, &c.....			10,618	94
Disposal of Dog-fish.....			25,083	38
			195,892	97

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STATEMENT of Fisheries Revenue paid to the credit of the Receiver General of Canada,
for the Fiscal Year ended June 30, 1905.

	\$	cts.
Ontario—rents, license fees, fines, &c	1,471	91
Quebec " "	4,648	56
Nova Scotia " "	6,718	58
New Brunswick " "	11,898	99
P. E. Island " "	2,046	50
Manitoba " "	4,879	70
N. W. Territories " "	1,151	50
British Columbia " "	47,436	00
Yukon Territory " "	340	00
Hudson Bay " "	10	00
Total	80,601	64
Less—Refunds	285	50
Total	80,316	14
Licenses to United States fishing vessels	10,672	00
Net Total	90,988	14

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COMPARATIVE STATEMENT of Expenditure and Revenue of the

No.	1890-91.		1891-92.		1892-93.	
	Expendi- ture.	Revenue.	Expendi- ture.	Revenue.	Expendi- ture.	Revenue.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1 General Account Fisheries....						
2 Ontario.....	15,540 30	26,517 70	15,155 83	25,368 90	20,116 91	30,623 09
3 Quebec.....	10,666 98	3,642 14	10,917 36	4,742 76	11,761 34	7,471 70
4 New Brunswick.....	16,082 77	7,193 69	15,707 98	6,334 83	15,721 05	7,831 53
5 Nova Scotia.....	17,844 19	5,582 65	18,755 86	3,357 42	19,444 22	6,782 02
6 Prince Edward Island.....	3,242 25	667 00	1,835 65	166 00	2,847 60	304 10
7 Manitoba and N. W. Terrs. .	3,609 03	1,234 00	3,593 43	1,079 00	3,932 96	1,661 68
8 British Columbia .	4,220 53	12,859 02	6,158 17	8,192 48	5,490 60	40,264 00
9 Fish-breeding and fishways...	39,496 45	1,286 50	43,957 74	178 00	47,322 49	.....
10 Fisheries Protection Service..	83,050 16	1,934 49	93,397 40	.....	106,805 39	.....
11 Miscellaneous	13,382 28	.....	17,449 06	.....	100,602 14	.....
Totals.....	207,234 94	60,917 19	226,928 48	49,719 39	334,044 70	94,938 12
Fishing bounties.	105,967 22	.....	156,892 25	.....	159,752 15	.....
	1897-98.		1898-99.		1899-00.	
	Expendi- ture.	Revenue.	Expendi- ture.	Revenue.	Expendi- ture.	Revenue.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
12 General Account Fisheries...	2,389 66	.....	2,632 12	.....	652 41	.....
13 Ontario.....	19,239 34	30,574 57	11,784 22	5,830 85	3,804 94	794 12
14 Quebec.....	11,140 16	7,571 15	11,350 27	6,287 71	5,452 41	2,543 04
15 New Brunswick.....	17,063 58	5,317 08	22,922 50	10,430 08	21,659 94	12,015 27
16 Nova Scotia.....	21,683 91	11,511 85	25,348 11	6,668 22	27,461 91	5,494 49
17 Prince Edward Island.....	6,775 78	2,707 57	6,832 85	2,242 24	7,364 30	2,207 12
18 Manitoba.....	1,206 26	1,515 00	1,883 37	1,537 85	1,723 59	2,028 00
19 N. W. Territories	2,324 66	393 87	4,065 68	150 50	3,848 25	1,522 50
20 British Columbia.....	8,508 79	47,864 75	8,459 47	45,801 75	13,662 17	53,195 35
21 Yukon .....	.....	.....	.....	.....	.....	.....
22 Hudson Bay Territory .....	.....	.....	.....	.....	.....	.....
23 Fish-breeding	28,002 32	.....	34,522 57	.....	38,070 12	.....
24 Fisheries Protection Service ..	101,807 96	.....	105,133 27	.....	97,370 11	.....
25 Miscellaneous.....	59,919 56	.....	23,207 73	.....	31,125 67	.....
Totals.....	280,061 98	107,455 84	427,599 16	76,949 20	411,717 35	79,799 89
Fishing bounties.....	157,504 00	.....	159,459 00	.....	160,000 00	.....
	1904-05.					
	Expendi- ture.	Revenue.				
	\$ cts.	\$ cts.				
26 General Account Fisheries...	1,314 75	.....			
27 Ontario.....	4,294 60	1,471 51				
28 Quebec.....	6,769 16	4,648 86				
29 New Brunswick.....	25,253 16	11,887 19				
30 Nova Scotia.....	32,619 85	6,448 88				
31 Prince Edward Island.....	6,879 05	2,046 50				
32 Manitoba.....	2,800 64	4,875 70				
33 N. W. Territories	7,003 55	1,151 50				
34 British Columbia.....	16,631 37	47,436 00				
35 Yukon	1,400 00	340 00				
36 Hudson Bay Territory.....	.....	10 00				
37 Fish-breeding	149,419 24	.....			
38 Fisheries Protection Service..	462,082 12	.....			
39 Miscellaneous	105,892 97	10,472 00				
Totals.....	822,360 46	90,988 14				
Fishing bounties.....	157,228 24				

NOTE—Miscellaneous Revenue consists of U.S. *Modus vivendi* License.

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Fisheries Department from July 1, 1890, to June 30, 1905.

1893-94.		1894-95.		1895-96.		1896-97.		Number.
Expen- diture.	Revenue.	Expen- diture.	Revenue.	Expen- diture.	Revenue.	Expen- diture.	Revenue.	
\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	
22,634 37	28,632 82	21,938 56	33,211 60	24,917 48	35,681 68	2,198 47	32,814 66	1
11,692 82	7,211 82	12,459 34	8,836 18	11,870 43	8,160 98	21,592 40	7,876 12	2
18,522 94	8,333 24	21,370 94	11,170 36	20,526 56	10,696 88	12,910 80	10,110 77	3
20,420 81	5,296 27	23,555 38	7,075 07	23,049 41	6,180 93	21,671 92	5,239 55	4
3,078 55	980 15	3,796 58	3,312 30	3,555 87	2,161 85	23,682 33	2,032 25	5
5,331 29	926 99	6,178 71	2,458 80	6,915 20	2,256 69	3,744 36	1,719 00	6
5,283 21	25,337 90	6,218 74	23,517 25	6,226 77	26,410 75	1,908 14	344 13	7
45,024 67	.....	39,730 93	.....	38,050 41	.....	2,181 58	39,888 82	8
115,147 59	.....	100,207 29	.....	102,021 72	.....	8,841 64	27,330 73	9
34,892 19	.....	24,619 86	.....	20,203 25	.....	27,330 73	99,357 01	10
282,028 44	76,719 19	260,976 33	89,581 56	257,237 10	91,549 76	62,777 30	.....	11
158,794 54	.....	160,089 42	.....	163,567 99	.....	289,197 01	100,025 30	
.....	.....	.....	.....	.....	.....	154,389 77	.....
1900-01.		1901-02.		1902-03.		1903-04.		
1,117 49	.....	765 78	.....	402 97	.....	1,362 11	.....	12
3,819 57	717 35	4,445 93	373 42	4,650 53	1,818 83	4,500 43	2,578 48	13
7,934 03	4,738 92	6,242 58	2,498 85	6,785 86	4,379 15	7,619 67	4,670 64	14
28,452 51	10,150 40	23,813 62	11,658 34	27,132 84	11,188 02	27,664 34	10,593 20	15
35,760 39	6,595 94	32,618 00	6,084 65	39,118 79	3,962 45	30,003 01	3,685 75	16
7,934 03	1,525 30	7,814 02	1,843 45	7,081 60	2,007 35	7,320 96	1,983 42	17
2,669 74	1,103 00	2,624 87	2,279 00	3,129 70	1,784 00	2,789 74	4,002 70	18
6,251 39	1,222 55	5,928 22	950 07	7,076 26	1,350 50	7,317 49	922 50	19
17,886 36	22,960 35	18,560 73	41,178 65	17,808 45	43,015 62	15,133 65	56,904 34	20
.....	.....	2,066 66	1,130 00	1,522 00	320 00	1,400 00	240 00	21
.....	.....	.....	.....	.....	.....	.....	10 00	22
68,961 40	.....	79,891 85	.....	77,330 86	.....	109,286 07	.....	23
124,211 21	.....	152,723 69	.....	145,137 49	.....	204,654 66	.....	24
27,833 79	9,178 50	56,131 26	11,223 65	30,903 27	8,925 40	56,828 18	10,165 50	25
332,767 07	88,145 11	393,627 21	79,169 58	368,091 12	78,635 82	475,880 31	95,756 53	
158,802 50	.....	155,942 00	.....	159,853 50	.....	158,943 70	.....

APPENDIX No. 2.

FISHING BOUNTIES.

The payments made for this service are under the authority of Act 54-55 Vic., cap. 42, intituled : ' An Act to encourage the development of the sea fisheries and the building of fishing vessels,' which provides for the payment of the sum of \$160,000 annually, under regulations to be made from time to time by the Governor General in Council.

REGULATIONS.

The regulations governing the payment of fishing bounties are as established by the following Order in Council, dated December 10, 1897 :—

Order in Council.

AT THE GOVERNMENT HOUSE AT OTTAWA,

FRIDAY, the 10th day of December, 1897.

Present :

HIS EXCELLENCY THE GOVERNOR GENERAL IN COUNCIL.

His Excellency, in virtue of the provisions of ' The Bounty Act, 1891 ', 54-55 Victoria, chapter 42, and by and with the advice of the Queen's Privy Council for Canada, is pleased to order that the regulations governing the payment of fishing bounties established by order of the Governor in Council, dated the 24th August, 1894, shall be and the same are hereby rescinded, and the following regulations substituted therefor :—

1. Resident Canadian fishermen who have been engaged in deep-sea fishing for fish other than shell-fish, salmon and shad, or fish taken in rivers, or mouths of rivers, for at least three months, and have caught not less than 2,500 pounds of sea-fish shall be entitled to a bounty ; provided always, that no bounty shall be paid to men fishing in boats measuring less than 13 feet keel, and not more than 3 men (the owner included), will be allowed as claimants in boats under 20 feet.

2. No bounty shall be paid upon fish caught in trap-nets, pound-nets and weirs, nor upon the fish caught in gill-nets fished by persons who are pursuing other occupations than fishing, and who devote merely an hour or two daily to fishing these nets but are not, as fishermen, steadily engaged in fishing.

3. Only one claim will be allowed in each season, even though the claimant may have fished in two vessels, or in a vessel and a boat, or in two boats.

4. The owners of boats measuring not less than 13 feet keel which have been engaged during a period of not less than three months in deep-sea fishing for fish other than shell-fish, salmon or shad, or fish taken in rivers or mouths of rivers, shall be entitled to a bounty on each such boat.

5. Canadian registered vessels, owned and fitted out in Canada, of 10 tons and upwards (up to 80 tons) which have been exclusively engaged during a period of not less than three months in the catch of sea-fish other than shell-fish, salmon or shad, or fish taken in rivers, or mouths of rivers, shall be entitled to a bounty to be calculated on the registered tonnage which shall be paid to the owner or owners.

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6. The three months during which a vessel must have been engaged in fishing, to be entitled to bounty, shall commence on the day the vessel sails from port on her fishing voyage and end the day she returns to port from said voyage.

7. Owners or masters of vessels intending to fish and claim bounty on their vessels must, before proceeding on a fishing voyage, procure a license from the nearest Collector of Customs or Fishery Overseer, said license to be attached to the claim when sent in for payment.

8. Dates and localities of fishing must be stated in the claim, as well as the quantity and kinds of sea-fish caught.

9. Ages of men must be given. Boys under 14 years of age are not eligible as claimants.

10. Claims must be sworn to as true and correct in all their particulars.

11. Claims must be filed on or before November 30 in each year.

12. Officers authorized to receive claims will supply the requisite blanks free of charge, and after certifying the same will transmit them to the Department of Marine and Fisheries.

13. No claim in which an error has been made by the claimant or claimants shall be amended after it has been signed and sworn to as correct.

14. Any person or persons detected making returns that are false or fraudulent in any particular will be debarred from any further participation in the bounty, and be prosecuted according to the utmost rigour of the law.

15. The amount of the bounty to be paid to fishermen and owners of boats and vessels will be fixed from time to time by the Governor in Council.

16. All vessels fishing under bounty license are required to carry a distinguishing flag, which must be shown at all times during the fishing voyage at the main-topmast head. The flag must be four feet square in equal parts of red and white, joined diagonally from corner to corner. Any case of neglect to carry out this regulation reported to the Department of Marine and Fisheries will entail the loss of the bounty, unless satisfactory reasons are given for its non-compliance.

JOHN J. MCGEE,

Clerk of the Privy Council.

The bounty for the year 1904 was distributed on the basis authorized by the following Order in Council—

AT THE GOVERNMENT HOUSE AT OTTAWA,

The 7th day of February, 1905.

Present :

HIS EXCELLENCY THE GOVERNOR GENERAL IN COUNCIL.

The Governor General in Council is pleased to order, that the sum of one hundred and sixty thousand dollars, payable under the provisions of the Act 54-55 Victoria, chapter 42, intitled : ' An Act to encourage the development of the Sea Fisheries and the building of fishing vessels,' shall be distributed for the year 1904-1905 upon the following basis :—

Vessels : The owners of the vessels entitled to receive bounty shall be paid one dollar (\$1) per registered ton, provided, however, that the payment to the owner of any one vessel shall not exceed the sum of eighty dollars (\$80), and all vessel fishermen entitled to receive bounty, shall be paid the sum of seven dollars and fifteen cents (\$7.15) each.

Boats : Fishermen engaged in fishing in boats, who shall also have complied with regulations entitling them to receive the bounty, shall be paid the sum of three dollars and seventy-five cents (\$3.75) each, and the owners of fishing boats shall be paid one dollar (\$1) per boat.

JOHN J. MCGEE,

Clerk of the Privy Council.

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There were received for the year 1904, 12,751 claims, an increase of 534, as compared with 1903.

The number of claims paid during the year was 12,671, an increase of 493 as compared with the previous year.

There were \$70,113.44 in bounties paid to vessels and their crews, and \$87,114.80 to boats and boat fishermen, making the total payments during the year 1904, \$157,228.24.

The number of vessels which received bounty during the year was 854, the total tonnage being 25,690 tons, an increase of 3 vessels and a decrease of 911 tons.

During the year bounty was paid on 11,817 boats and to 20,078 boat fishermen, being an increase of 490 boats and 929 men as compared with 1903.

DETAILED STATEMENT of Fishing Bounty Claims received and paid during the year 1904.

Province.	County.	NUMBER OF CLAIMS.		
		Received.	Rejected and held in Abeyance.	Paid.
Nova Scotia	Annapolis	165		165
	Antigonish	118		118
	Cape Breton	405	4	401
	Cumberland	2		2
	Digby	491	2	489
	Guysborough	948	2	946
	Halifax	1,282	2	1,280
	Hants			
	Inverness	352		352
	King's	41		41
	Lunenburg	883	5	878
	Pictou	21		21
	Queen's	128	1	127
	Richmond	748		748
	Shelburne	588		588
	Victoria	398		398
	Yarmouth	180	2	178
	Totals	6,750	18	6,732
New Brunswick	Charlotte	389		389
	Gloucester	363		363
	Kent	64		64
	Northumberland	5		5
	Restigouche	1		1
	St. John	57	13	44
	Totals	879	13	866
Prince Edward Island	King's	550	32	518
	Prince	369		369
	Queen's	108	1	107
	Totals	1,027	33	994
Quebec	Bonaventure	845	3	842
	Gaspé	2,389	12	2,377
	Rimouski	46		46
	Saguenay	815	1	814
	Totals	4,095	16	4,079
Grand totals		12,751	80	12,671

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DETAILED STATEMENT of Fishing Bounties paid to Vessels in each County during the Year 1904.

Province.	County.	Number of Vessels.	Tonnage.	Average Tonnage.	Number of Men.	Amount paid.
						\$ cts.
Nova Scotia	Annapolis.....	13	244	18.77	56	644 75
	Antigonish.....	1	17	17	3	38 45
	Cape Breton.....	15	243	16.20	58	657 70
	Cumberland.....	1	17	17	.....	17 00
	Digby.....	52	1,492	28.69	435	4,551 64
	Guysborough.....	60	1,133	18.88	304	3,306 60
	Halifax.....	54	1,366	25.29	351	3,875 65
	Hants.....	.....	.....	.....	.....	.....
	Inverness.....	27	380	14.07	133	1,330 95
	King's.....	6	92	15.33	17	213 55
	Lunenburg.....	154	11,564	78.33	2,487	29,346 20
	Pictou.....	2	94	47	21	244 15
	Queen's.....	7	173	24.71	46	561 90
	Richmond.....	63	1,432	22.73	337	3,841 55
	Shelburne.....	51	1,487	29.16	395	4,311 25
	Victoria.....	7	78	11.14	33	313 95
	Yarmouth.....	39	1,473	37.77	364	4,075 60
	Total	552	21,285	38.56	5,040	57,270 89
New Brunswick.....	Charlotte.....	52	851	16.36	190	2,209 60
	Gloucester.....	194	2,353	12.13	752	7,730 25
	Kent.....	.....	.....	.....	.....	.....
	Northumberland.....	3	64	21.33	11	142 65
	Restigouche.....	1	26	26	4	54 60
	St. John.....	7	135	19.28	24	306 60
	Total	257	3,429	13.34	981	10,443 70
Prince Edward Island.	King's.....	14	312	22.28	58	726 70
	Prince.....	10	194	19.40	44	508 60
	Queen's.....	6	88	14.66	24	259 60
	Total	30	594	19.80	126	1,494 90
Quebec.....	Bonaventure.....	.....	.....	.....	.....	.....
	Gaspé.....	9	158	17.55	40	444 00
	Rimouski.....	.....	.....	.....	.....	.....
	Saguenay.....	6	224	37.33	33	459 95
	Totals.....	15	382	25.46	73	903 95
	Grand totals.....	854	25,690	30.08	6,220	70,113 44

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DETAILED STATEMENT of Fishing Bounties paid to Boats in each County during the Year 1904, showing also total amount paid to Vessels and Boats for the Year.

Province.	County.	Number of Boats.	Number of Men.	Amount paid.	Total Bounty paid to Vessels and Boats in 1904.
				\$ cts.	\$ cts.
Nova Scotia.	Annapolis.....	152	227	1,003 25	1,648 00
	Antigonish.....	117	173	765 75	804 20
	Cape Breton.....	386	738	3,155 15	3,812 85
	Cumberland.....	1	2	8 50	25 50
	Digby.....	437	779	3,338 25	7,909 89
	Guysborough.....	886	1,436	6,271 00	9,577 60
	Halifax.....	1,226	1,641	7,379 90	11,255 55
	Hants.....				
	Inverness.....	325	627	2,676 85	4,007 80
	King's.....	35	58	252 50	466 05
	Lunenburg.....	724	837	3,862 75	33,208 95
	Pictou.....	19	26	116 00	360 15
	Queen's.....	120	204	885 00	1,386 90
	Richmond.....	685	1,044	4,597 90	8,439 45
	Shelburne.....	537	903	3,923 25	8,234 50
	Victoria.....	391	626	2,739 25	3,633 20
	Yarmouth.....	139	235	1,020 25	5,095 85
	Totals.....	6,180	9,556	42,015 55	99,286 44
New Brunswick	Charlotte.....	337	484	2,152 00	4,361 60
	Gloucester.....	169	420	1,744 60	9,474 85
	Kent.....	64	103	450 25	450 25
	Northumberland	2	4	17 00	159 65
	Restigouche.....				54 60
	St. John.....	37	71	303 25	609 85
	Totals.....	609	1,082	4,667 10	15,110 80
Prince Edward Island	King's.....	504	706	3,151 50	3,878 20
	Prince.....	359	873	3,633 20	4,141 80
	Queen's.....	101	213	899 75	1,159 35
	Totals.....	964	1,792	7,684 45	9,179 35
Quebec.....	Bonaventure.....	842	1,536	6,602 00	6,602 00
	Gaspé.....	2,368	4,664	19,862 55	20,306 55
	Rimouski.....	46	58	263 50	263 50
	Saguenay.....	808	1,390	6,019 65	6,479 60
	Totals.....	4,064	7,648	32,747 70	33,651 65
	Grand totals.....	11,817	20,078	87,114 80	157,228 24

GENERAL STATISTICS.

The fishing bounty was first paid in 1882.

The payments were made each year on the following basis :—

1882, vessels \$2 per ton, one half to the owner and the other half to the crew.
Boats at the rate of \$5 per man, one-fifth to the owner and four-fifths to the men.

1883, vessels \$2 per ton, and boats \$2.50 per man, distributed as in 1882.

1884, vessels \$2 per ton, as in 1882 and 1881.

Boats from 14 to 18 feet keel.....	\$1 00
“ 18 to 25 “	1 50
“ 25 feet keel upwards.....	2 00
Boat fishermen.....	3 00

1885, 1886 and 1887, vessels \$2 per ton as in previous years. Boats measuring 13 feet keel having been admitted in 1885, the rates were :—Boats from 13 to 18 feet keel \$1 ; from 18 to 25 feet keel, \$1.50 ; from 25 feet keel upwards, \$2, and fishermen \$3 each.

1888, vessels \$1.50 per ton, one-half each to owner and crew. Boats, the same as 1885, 1886 and 1887.

1889, 1890 and 1891, vessels \$1.50 per ton as in 1888. Boats \$1 each. Boat fisherman \$3.

1892, vessels \$3 per ton, one half each to owner and crew. Boats \$1 each. Boat fishermen \$3.

1893, vessels \$2.90 per ton, paid as formerly. Boats \$1 each. Boat fishermen \$3.

1894, vessels \$2.70 per ton, distributed as in previous years. Boats \$1 each. Boat fishermen \$3.

1895, vessels \$2.60 per ton, half each to owner and crew. Boats \$1 each. Boat fishermen \$3.

1896, vessels \$1 per ton, which was paid to the owners, and vessel fishermen \$5 each, clause No. 5 of the regulation having been amended accordingly. Boats \$1 each, and boat fishermen \$3.50 per man.

1897, vessels \$1 per ton, and vessel fishermen \$6 each. Boats \$1 each, and boat fishermen \$3.50 per man.

1898, vessels \$1 per ton, and vessel fishermen \$6.50 each. Boats \$1 each, and boat fishermen \$3.50 per man.

1899, vessels \$1 per ton, and vessel fishermen \$7 each. Boats \$1 each, and boat fishermen \$3.50 per man.

1900, vessels, \$1 per ton, and vessel fishermen \$6.50 each. Boats \$1 each, and boat fishermen \$3.50 per man.

1901, vessels \$1 per ton, and vessel fishermen \$7 each. Boats \$1 each, and boat fishermen \$3.50 per man.

1902, vessels \$1 per ton, and vessel fishermen, \$7.25 each. Boats \$1 each, and boat fishermen, \$3.80 per man.

1903, vessels \$1 per ton, and vessel fishermen \$7.30 each. Boats \$1 each, and boat fishermen \$3.90 per man.

1904, vessels \$1 per ton, and vessel fishermen \$7.15 each. Boats \$1 each, and boat fishermen \$3.75 per man.

Since 1882, 18,731 vessels, totalling a tonnage of 659,344 tons, have received the bounty. The total number of vessel fishermen which received bounty is 143,415 being an average of about 7 men per vessel.

The total number of boats to which bounty was paid since 1882 is 312,037, and the number of fishermen 571,654. Average number of men per boat 2.

The highest bounty paid per head to vessel fishermen was \$21.75 in 1893 ; the lowest 83 cents, while the highest to boat fishermen was \$4, the lowest \$2.

The general average paid per head is \$5.08.

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COMPARATIVE STATEMENT by Provinces for the Years 1882 to 1904, inclusive, showing :—
(1) Total number of Fishing Bounty Claims received and paid by the Department of Marine and Fisheries.

YEAR.	NOVA SCOTIA.		NEW BRUNSWICK.		P. E. ISLAND.		QUEBEC.		TOTAL.	
	Received.	Paid.	Received.	Paid.	Received.	Paid.	Received.	Paid.	Received.	Paid.
1882.....	6,730	6,613	1,257	1,142	1,169	1,100	3,162	3,117	12,318	11,972
1883.....	7,171	7,076	1,693	1,579	1,138	1,106	3,602	3,325	13,604	13,086
1884.....	7,007	6,930	1,252	1,224	923	885	3,470	3,429	12,652	12,468
1885.....	7,046	7,599	1,609	1,588	1,117	1,025	3,943	3,912	14,315	14,124
1886.....	7,639	7,702	1,767	1,763	1,131	1,080	4,275	4,355	14,812	14,900
1887.....	8,262	8,227	1,975	1,958	1,201	1,126	4,138	4,105	15,576	15,416
1888.....	8,481	8,429	2,065	2,026	1,153	834	4,328	4,310	16,027	15,599
1889.....	8,816	8,523	2,428	2,392	1,211	1,511	4,664	4,652	17,119	17,078
1890.....	9,337	9,429	2,522	2,469	1,352	1,257	4,860	4,804	18,071	17,959
1891.....	10,242	10,063	2,831	2,084	1,482	1,446	5,108	4,913	19,663	18,506
1892.....	8,272	8,186	1,067	1,001	1,065	1,051	4,425	4,204	14,829	14,442
1893.....	7,926	7,844	967	881	1,027	1,012	4,059	3,898	13,979	13,635
1894.....	8,640	8,600	925	911	983	963	3,948	3,876	14,496	14,350
1895.....	8,835	8,825	979	975	1,009	1,025	3,904	3,955	14,727	14,780
1896.....	8,597	8,562	1,137	1,064	1,111	1,120	4,366	4,229	15,211	14,975
1897.....	8,450	8,418	1,042	991	1,175	1,171	4,180	4,149	14,847	14,729
1898.....	8,446	8,347	934	917	1,143	1,145	4,156	4,092	14,679	14,501
1899.....	7,894	7,754	849	825	1,016	947	4,134	4,102	13,893	13,628
1900.....	7,484	7,452	904	904	1,119	1,169	4,264	4,251	13,771	13,776
1901.....	7,346	7,344	829	826	941	937	4,277	4,267	13,393	13,374
1902.....	6,710	6,671	802	794	913	912	4,371	4,346	12,796	12,723
1903.....	6,297	6,284	832	830	978	974	4,110	4,090	12,217	12,178
1904.....	6,750	6,732	879	866	1,027	994	4,095	4,079	12,751	12,671
Total.....	182,978	181,610	31,545	30,010	25,384	24,790	95,839	94,460	335,746	330,870

(2) NUMBER of vessels, tonnage and number of men which received Bounty in each year.

YEAR.	NOVA SCOTIA.			NEW BRUNSWICK.			P. E. ISLAND.			QUEBEC.			TOTAL.		
	No. of Vessels.	Tonnage.	No. of Men.	No. of Vessels.	Tonnage.	No. of Men.	No. of Vessels.	Tonnage.	No. of Men.	No. of Vessels.	Tonnage.	No. of Men.	No. of Vessels.	Tonnage.	No. of Men.
1882.....	588	22,841	5,343	120	2,171	531	15	389	74	63	2,210	538	786	27,611	6,486
1883.....	700	29,788	6,238	126	2,102	496	16	450	66	62	2,236	443	904	34,576	7,243
1884.....	700	29,828	6,327	139	2,289	560	16	582	92	56	1,965	382	911	34,664	7,361
1885.....	629	27,700	5,897	128	2,120	496	19	597	113	55	1,791	317	831	32,217	6,823
1886.....	562	25,375	5,022	145	2,628	520	32	1,071	215	52	1,730	320	791	30,804	6,077
1887.....	566	24,529	4,900	154	2,889	563	38	1,677	338	54	1,883	334	812	30,969	6,135
1888.....	589	26,068	5,430	150	2,545	544	37	1,245	249	51	1,842	388	827	31,640	6,631
1889.....	597	27,123	5,684	153	2,590	565	35	1,274	239	48	1,729	330	833	32,716	6,818
1890.....	540	23,955	4,935	133	2,129	447	32	1,002	203	34	1,182	220	739	28,268	5,805
1891.....	527	22,780	4,618	124	2,051	411	27	778	155	27	924	168	705	26,533	5,352
1892.....	507	22,279	4,611	108	1,683	343	30	983	139	23	803	159	668	25,748	5,252
1893.....	536	23,195	4,780	210	2,922	634	27	910	151	32	952	179	805	27,979	5,744
1894.....	602	24,735	5,077	238	3,189	721	21	594	114	38	1,066	178	899	29,584	6,000
1895.....	603	25,018	5,184	238	3,107	764	27	769	129	39	1,262	173	907	30,156	6,250
1896.....	553	23,415	4,607	250	3,337	800	23	656	114	36	1,143	144	862	28,551	5,665
1897.....	507	21,323	4,829	239	3,079	816	20	490	109	94	833	116	790	25,725	5,870
1898.....	505	20,868	4,840	239	3,155	859	24	561	125	16	524	77	784	25,108	5,901
1899.....	519	22,538	5,323	238	3,131	885	15	373	76	17	497	78	789	26,539	6,362
1900.....	525	22,474	5,352	234	2,599	890	29	737	153	14	459	76	802	26,639	6,471
1901.....	508	21,469	5,158	242	3,229	872	23	541	115	13	366	69	786	25,605	6,214
1902.....	505	21,248	5,126	249	3,293	972	28	630	135	13	350	51	795	25,521	6,284
1903.....	546	21,992	5,173	259	3,454	971	36	765	169	10	290	48	851	26,501	6,361
1904.....	552	21,285	5,040	257	3,429	981	30	594	126	15	382	73	854	25,690	6,220
Total.....	12,966	551,766	119,514	4,373	63,491	15,641	600	17,668	3,399	792	26,419	4,361	18,731	659,344	143,415

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(3) NUMBER of Boats and boat fishermen which received Bounty in each year.

YEAR.	NOVA SCOTIA.		NEW BRUNSWICK.		P. E. ISLAND.		QUEBEC.		TOTAL.	
	No. of Boats.	No. of Men.	No. of Boats.	No. of Men.	No. of Boats.	No. of Men.	No. of Boats.	No. of Men.	No. of Boats.	No. of Men.
1882	6,043	12,180	1,024	2,530	1,087	3,070	3,071	5,716	11,225	23,446
1883	6,458	13,553	1,453	3,309	1,098	3,106	3,266	6,188	12,275	26,156
1884	6,257	12,669	1,086	2,505	869	2,346	3,344	6,416	11,556	23,936
1885	6,970	13,396	1,460	3,254	1,006	2,606	3,857	7,485	13,293	26,741
1886	7,140	13,351	1,618	3,567	1,048	2,547	4,303	7,981	14,109	27,446
1887	7,662	13,997	1,804	3,994	1,088	2,711	4,051	7,550	14,605	28,252
1888	7,840	14,115	1,876	4,148	797	2,141	4,259	7,852	14,772	28,256
1889	7,926	14,118	2,237	5,032	1,475	3,568	4,602	8,807	16,240	31,525
1890	8,886	15,738	2,324	5,242	1,192	3,024	4,766	9,241	17,168	33,245
1891	9,525	16,552	1,928	4,126	1,383	3,427	4,865	9,402	17,701	33,507
1892	7,679	12,307	893	1,765	1,021	2,047	4,181	7,693	13,774	23,812
1893	7,308	11,748	671	1,314	985	1,962	3,866	7,245	12,830	22,269
1894	7,966	12,899	661	1,281	913	1,813	3,821	7,139	13,351	23,132
1895	8,222	13,106	737	1,434	998	2,141	3,916	7,877	13,873	24,558
1896	8,008	12,454	814	1,553	1,095	2,126	4,189	7,688	14,106	23,821
1897	7,911	12,542	752	1,351	1,151	2,147	4,125	7,572	13,939	23,612
1898	7,872	12,438	678	1,237	1,121	2,199	4,076	7,627	13,747	23,501
1899	7,235	11,305	587	1,027	932	1,710	4,085	7,696	12,839	21,738
1900	6,927	10,645	670	1,184	1,140	2,198	4,237	8,004	12,974	22,031
1901	6,836	10,464	584	1,001	914	1,735	4,254	8,017	12,588	21,217
1902	6,166	9,442	545	966	884	1,038	4,333	8,180	11,928	20,226
1903	5,738	8,775	571	964	938	1,722	4,080	7,688	11,327	19,149
1904	6,180	9,556	609	1,082	964	1,792	4,064	7,648	11,817	20,078
Total.....	168,745	287,300	25,582	53,866	24,099	53,776	93,611	176,712	312,037	571,654

(4) TOTAL Number of men receiving Bounty in each year.

YEAR.	NOVA SCOTIA.	NEW BRUNSWICK.	P. E. ISLAND.	QUEBEC.	TOTAL.
	No. of Men.	No. of Men.	No. of Men.	No. of Men.	
1882	17,473	3,061	3,144	6,254	29,932
1883	19,791	3,805	3,172	6,631	33,399
1884	18,996	3,065	2,438	6,798	31,297
1885	19,293	3,750	2,719	7,802	33,564
1886	18,373	4,087	2,762	8,301	33,523
1887	18,897	4,557	3,049	7,884	34,387
1888	19,565	4,692	2,390	8,240	34,887
1889	19,802	5,597	3,807	9,137	38,343
1890	20,673	5,689	3,227	9,461	39,050
1891	21,170	4,537	3,582	9,570	38,859
1892	16,918	2,108	2,186	7,852	29,064
1893	16,528	1,948	2,113	7,424	28,013
1894	17,976	2,002	1,927	7,317	29,222
1895	18,290	2,198	2,270	8,050	30,808
1896	17,061	2,353	2,240	7,832	29,486
1897	17,371	2,167	2,256	7,688	29,482
1898	17,278	2,096	2,324	7,704	29,402
1899	16,628	1,912	1,786	7,774	28,100
1900	15,997	2,074	2,351	8,080	28,502
1901	15,622	1,873	1,350	8,086	27,431
1902	14,568	1,938	1,773	8,231	26,510
1903	13,948	1,935	1,891	7,736	25,510
1904	14,596	2,063	1,918	7,721	26,298
Total.....	406,814	69,507	57,175	181,573	715,069

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(5) TOTAL annual payments of Fishing Bounty.

YEAR.	Nova Scotia.	New Brunswick.	P. E. Island.	Quebec.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1882.....	106,098 72	16,997 00	16 137 00	33,052 75	172,285 47
1883.....	89,432 50	12,395 20	8,577 14	19,940 01	130,344 85
1884.....	104,934 09	13,576 00	9,203 96	28,004 93	155,718 98
1885.....	103,999 73	15,908 25	10,166 65	31,464 76	161,539 39
1886.....	98,789 54	17,894 57	10,935 87	33,283 61	160,903 59
1887.....	99,622 03	19,699 65	12,528 51	31,907 73	163,757 92
1888.....	89,778 90	18,454 92	9,092 96	32,858 75	150,185 53
1889.....	90,142 51	21,026 79	13,994 53	33,362 71	158,526 54
1890.....	91,235 64	21,108 33	11,686 32	34,210 72	158,241 01
1891.....	92,377 42	17,235 96	12,771 30	34,507 17	156,891 85
1892.....	100,410 39	10,864 61	9,782 79	29,694 35	159,752 14
1893.....	108,060 67	12,524 09	9,328 62	28,320 72	158,234 10
1894.....	111,460 03	12,690 80	7,875 79	28,040 18	160,066 80
1895.....	110,765 27	12,919 32	9,285 13	30,598 27	163,567 99
1896.....	98,048 95	13,602 88	9,745 50	32,992 44	154,389 77
1897.....	102,083 50	13,454 50	9,809 00	32,157 00	157,504 00
1898.....	103,730 00	13,746 00	10,188 00	31,795 00	159,459 00
1899.....	106,598 50	13,514 50	7,822 00	32,065 00	160,000 00
1900.....	101,448 00	13,562 50	10,589 00	33,203 00	158,802 50
1901.....	101,024 50	13,420 50	8,335 50	33,161 50	155,942 00
1902.....	100,455 70	14,555 80	8,716 55	30,125 45	159,853 50
1903.....	99,714 15	14,872 75	9,652 50	34,704 30	158,943 70
1904.....	99,286 44	15,110 80	9,179 35	33,651 65	157,228 24
Total.....	2,318,497 18	349,135 72	235,403 97	729,102 60	3,632,138 87

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LIST of Vessels which received Fishing Bounty during the Year 1904-05.

PROVINCE OF NOVA SCOTIA.

ANNAPOLIS COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew Paid.	Amount of Bounty Paid.
							\$ cts.
103066	Addie J.	Yarmouth	23	David Hayden	Thorns Cove	9	87 35
80093	Anna K.	St. John.....	14	Edward Fales.	Wilmot.....	2	28 30
90655	Annina.	Yarmouth	12	Stephen Haynes	Victoria Beach..	5	47 75
107475	Ethel May.	Digby	16	R. E. Hudson.	Parker's Cove..	5	51 75
94835	Georgie Linwood..	"	25	J. McGranahan.	Margaretville... 3	46 45	
107478	Jessie C.	"	10	Lewis Sabeau.	Hampton.	2	24 30
111998	Jessie K.	Annapolis	11	Norman Gregory	Parker's Cove..	4	39 60
83461	Josie L. Day	Digby	16	Elmer Sabeau.	Port Lorne.	1	23 15
85534	Lloyd.	Yarmouth	31	W. H. Anderson	Parker's Cove..	9	95 35
116231	Maggie M.	Digby	11	R. McGranahan	Margaretville... 3	32 45	
100539	Rowena.	"	10	J. F. Peters	Hilsburn.	3	31 45
107293	S. C. H.	Annapolis	49	J. S. Hayden.	Victoria Beach..	6	91 90
116233	Wild Rose.	Digby	16	D. Lewis.	Port Lorne....	4	44 60

ANTIGONISH COUNTY.

103542	Emma Brow.	Halifax.	17	J. J. Brow.	Hbr. au Bouche.	3	38 45
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CAPE BRETON COUNTY.

112376	Agnes.	Arichat.	15	Patk. Wadden.	Scatarie.	4	43 60
100389	Annie F.	Sydney.	13	John Farrell.	Mainadieu.	4	41 60
100372	Betsy Jane.	"	11	S. Moore.	L Bras d'Or.	4	39 60
85381	Champion.	"	19	J. Williams.	Louisburg	3	40 45
90834	Diego.	Port Medway.	27	Thos. Peach.	Port Morien.	7	77 05
75571	Fanny.	Liverpool.	16	Cape Breton Fish Co.	Nth. Sydney.	3	37 45
107371	Highland Lass.	Sydney.	19	Josiah Tutty.	False Bay Beach	4	47 60
100381	Katie B.	"	24	D. A. Tutty.	Louisburg	5	59 75
107375	Minnie B.	"	10	J. Rogers.	Nth. Sydney.	3	31 45
107360	Ovando.	"	11	Patrick Campbell.	Mainadieu.	3	32 45
100566	Rob S.	Halifax.	21	G. Tutty.	Big Lorraine.	4	49 60
107376	Rozzie.	Sydney.	17	J. Degat.	L. Bras d'Or.	3	38 45
107359	Victoria.	"	11	J. Turner.	Glance Bay.	4	39 60
90488	Wave.	Charlottetown.	19	Jno. Stacey.	"	4	47 60
107351	Wilfred Laurier.	Sydney.	10	Philip May.	Nth. Sydney.	3	31 45

CUMBERLAND COUNTY.

77786	Hesperus.	Halifax.	17	J. R. Lewis.	Apple River.	17 00
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DIGBY COUNTY.

83431	Acadian.	Weymouth.	32	E. Hains.	Freeport.	10	103 50
107476	Addie B.	Digby.	13	A. Thompson.	Westport.	6	55 90
112286	A. E. Moore.	"	10	J. A. Moore.	"	3	31 45
111528	Alart.	"	11	Benj. Doucett.	Mavilette.	6	53 90
88598	Alph B. Parker.	St. John.	47	J. Thurber.	Freeport.	14	147 10
107807	America.	"	16	R. Thurber.	"	3	37 45
111524	Annie Laurie.	Digby.	10	S. Perry.	"	3	38 60
112102	Ariadne.	St. John.	48	H. Outhouse.	Tiverton.	13	149 95
100547	B. and C.	Digby.	14	Wm. P. Perry.	Freeport.	5	49 75
100813	Blanche.	Barrington.	24	N. Robbins.	Tiverton.	11	102 65

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List of Vessels which received Fishing Bounty, &c.—Nova Scotia—*Con.*DIGBY COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							\$ cts.
94698	Carrie H.	Digby	20	Wesley Leeman.	Tiverton	9	84 35
94704	Charles Haskell.	"	67	John W. Snow.	Digby.	10	138 50
74331	Condor.	Yarmouth.	11	Howard Titus.	Westport.	6	53 90
103181	Curlew.	Digby	63	George Denton.	"	16	177 40
107112	Daisy Linden.	"	97	David Sproul.	Digby.	20	223 00
103749	Emerald.	"	29	Edward Keans.	"	12	114 80
116446	Emerson Faye.	Shelburne.	47	Milton Hains.	Freeport.	14	147 10
107604	Emma D.	Weymouth.	20	T. S. Doucett.	Mavilette.	6	62 90
111527	Etta H.	Digby.	10	Edwd. Welch.	Westport.	4	38 60
112281	Eveline.	"	22	Eli Trahan.	Meteghan.	6	64 90
74329	Fairy Queen.	Yarmouth.	13	Wallace Coggins.	Westport.	2	27 30
100891	Fleur de Lis.	Digby.	17	O'Donnely.	Digby.	5	52 75
80798	Freddie G.	"	13	Wm. W. Titus.	Westport.	7	68 05
107480	Hattie & Eva.	"	11	Ralph Hains.	Freeport.	4	39 60
111688	Hazelwood.	Shelburne.	29	A. J. Thurber.	"	10	100 50
111530	Island Girl.	Digby.	10	Esrom Thurber.	"	4	38 60
100064	Isma.	St. John.	31	Arthur Hicks.	Westport.	10	102 50
111525	James W. Cousins.	Digby.	87	J. F. Milberry.	Digby.	23	244 45
111838	Lavina D.	"	21	Jas. Doucette.	Mavilette.	7	71 05
75851	Little Annie.	Weymouth.	16	Est. Dennis Sullivan.	Meteghan.	6	58 90
116210	Lucy A.	Yarmouth.	32	J. T. Therrio.	Meteghan River.	10	103 50
100487	Mabel B.	Digby.	57	C. E. Nigan.	Freeport.	14	157 10
107605	Mabel M.	Weymouth.	20	L. Boudrou.	Mavilette.	4	48 60
107479	Marguerite.	Digby.	24	David Sproul.	Digby.	13	116 95
107477	Maudie Ellen.	"	14	"	"	"	14 00
103184	Mawflower.	"	26	Jno. W. Snow.	"	4	54 60
100574	Melrose.	Lunenburg.	71	A. S. Haycock.	Westport.	18	199 70
103705	Nebula.	Yarmouth.	24	R. McWhinnie.	Digby.	10	95 50
116660	Nora.	"	11	P. S. Doucett.	Mavilette.	5	46 75
112285	Ospray.	Digby.	16	F. W. Corning.	Beaver River.	5	51 75
111834	Rosan.	"	11	F. J. Doucett.	Mavilette.	4	39 60
111835	Roxana.	"	11	Ainsley Titus.	Westport.	3	32 45
107334	Shamrock.	Yarmouth.	17	Rudolph Thurber.	Freeport.	5	52 75
111840	Sparrow.	Digby.	28	Moses Thériault.	Meteghan.	6	70 90
111529	Spray.	"	12	Benj. Taylor.	Smith's Cove.	2	26 30
107610	St. Bernard.	Weymouth.	24	Jos. D. Weaver.	Belliveau's Cove.	9	88 35
100609	Swan.	Shelburne.	56	Edwin Hains.	Freeport.	14	156 10
103179	Trilby.	Digby.	31	George Lent.	"	9	95 35
94694	Utah & Eunice.	"	33	Milton Hains.	"	9	97 35
103711	Venité.	"	24	John Frontain.	Mavilette.	6	66 90
103704	Whisper.	Yarmouth.	31	Wm. McGrath.	Digby.	10	102 50
100543	W. Parnell O'Hara.	Digby.	79	Jos. E. Snow et al.	"	17	149 94

GUYSBORO COUNTY.

90866	Alice.	Halifax.	12	James Hemlow.	Liscomb.	4	40 60
107992	Alice J. Davis.	Canso.	20	Edward Hearn.	Canso.	6	62 90
111422	Annie B.	Halifax.	26	Ben Boudro.	Port Felix.	5	61 75
112021	Annie M.	Canso.	29	Jno. Leary.	Queensport.	5	64 75
112016	Blanche.	"	13	Simon Williams.	Canso.	5	48 75
103537	Bonacord.	Halifax.	12	Benj. L. Pelrine.	Larry's River.	7	62 95
112020	Bonny Kate.	Canso.	14	Robt. Meagher.	Canso.	6	56 90
112375	C. G. Munro.	Arichat.	14	Chas. Mosher.	White Head.	5	49 75
116734	Cora Lee.	Halifax.	16	Lennuel Kaiser.	Beckerton.	4	44 60
103328	Ella May.	Pt. Hawkesbury.	34	Hilbert Carr.	Mulgrave.	5	69 75
116347	Ethel.	Arichat.	11	J. W. Lumsden.	Hazel Hill.	3	32 45
116882	Fiona.	"	10	Martin Pelrine.	Larry's River.	4	58 60
107993	Florence May.	Canso.	11	Jno. Kennedy.	Canso.	5	46 75
112373	Flying Cloud.	Arichat.	13	Simon Manett.	Larry's River.	4	41 60

SESSIONAL PAPER No. 22

LIST of Vessels which received Fishing Bounty, &c.—Nova Scotia—*Con.*GUYSBORO COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounties paid. cts.
100818	Geneva Ethel . . .	Barrington . . .	29	Martin Meagher . . .	Canso . . .	4	57 60
100228	Golden Dawn . . .	Halifax . . .	46	E. B. Pelrine . . .	Larry's River . . .	7	96 05
88220	Grandee . . .	" . . .	14	Geo. Pace . . .	Marie Joseph . . .	4	42 60
107996	Green Linnet . . .	Canso . . .	12	J. Sampson . . .	Dover . . .	5	47 75
100815	Happy Home . . .	Barrington . . .	10	Samuel Snow . . .	Up, White Head . . .	5	45 75
116740	Hilda M. Horton . . .	Halifax . . .	29	E. F. C. Horton . . .	Beckerton . . .	5	64 75
116735	Lake Queen . . .	" . . .	29	Edwd. Furlong . . .	Port Hilford . . .	1	36 15
111908	Laura B. G. . . .	Arichat . . .	10	Peter Levangie . . .	Larry's River . . .	3	31 45
116732	Lena M. . . .	Halifax . . .	28	A. W. Reid . . .	Port Hilford . . .	5	63 75
111910	Lizzie J. Greenleaf . . .	Arichat . . .	11	Jos. H. Richard . . .	Charles Cove . . .	5	46 75
100835	Lottie B. . . .	Canso . . .	12	Thos. Boudrot . . .	Dover . . .	6	54 90
112018	Maggie Bell . . .	" . . .	26	C. S. Horton . . .	Guysboro . . .	8	83 20
111421	Maple-leaf . . .	Halifax . . .	25	Norman Corkum . . .	Beckerton . . .	7	75 05
112136	Maple Leaf . . .	Shelburne . . .	48	Jno. Cousins . . .	Canso . . .	13	140 95
112017	Marconi . . .	Canso . . .	55	Chas. Lohries . . .	" . . .	13	147 95
111909	Margaret May . . .	Arichat . . .	12	Jno. Kavanagh . . .	" . . .	3	33 45
112371	Mary A. . . .	" . . .	11	Daniel Casey . . .	Charles Cove . . .	3	32 45
116886	Mary J. . . .	" . . .	11	Wm. Diggon . . .	White Head . . .	5	46 75
100859	Mary May . . .	Halifax . . .	23	Benj. David . . .	Port Felix . . .	6	65 90
100816	Mattie Morrissey . . .	Canso . . .	24	Jas. Meagher . . .	Canso . . .	3	45 45
107999	Maud S. . . .	" . . .	12	David Sproule . . .	" . . .	5	47 75
116736	Milo . . .	Halifax . . .	23	H. O. Rudolph . . .	Beckerton . . .	3	44 45
112022	Minnie J . . .	Canso . . .	14	Jas. W. Feltnate . . .	White Head . . .	5	49 75
100446	Minnie May . . .	" . . .	12	Chas. H. Richard . . .	Charles Cove . . .	5	47 75
100450	Minto . . .	" . . .	18	Wm. O'Hara . . .	Canso . . .	4	46 60
107998	Money Bush . . .	" . . .	15	Thos. Richard . . .	Port Felix . . .	6	57 90
103323	Nita . . .	Pt. Hawkesbury . . .	22	Jno. C. Davidson . . .	Isaac Hbr . . .	6	64 90
112378	Olive S. . . .	Arichat . . .	17	Milton Sangster . . .	New Harbour . . .	5	52 75
92663	Prince Edward . . .	Ottawa . . .	18	And. C. Fanning . . .	Seal Hbr . . .	4	46 60
112024	Reta S. . . .	Canso . . .	13	Levi Shrider . . .	Canso . . .	5	48 75
112372	River Swan . . .	Arichat . . .	11	Alonzo Munroe . . .	White Head . . .	5	46 75
74139	Sadie . . .	Halifax . . .	44	Isaiah Fougere . . .	Larry's River . . .	6	86 90
111413	Sigdrifa . . .	Lunenburg . . .	13	Wm. Dort . . .	Cole Hbr . . .	3	34 45
112023	Silver Bell . . .	Canso . . .	14	Geo. Schrader . . .	Tor Bay . . .	2	28 30
116884	Silver Swan . . .	Arichat . . .	20	Jos. Bonnevie . . .	Larry's River . . .	6	62 90
112025	Squanto . . .	Canso . . .	13	Frank H. Hawes . . .	Canso . . .	4	41 60
96962	Sunrise . . .	Yarmouth . . .	18	Thurlo Munroe . . .	L. W. White Hd . . .	3	39 45
103464	St. Patrick . . .	Arichat . . .	27	Phil. McArthur . . .	Goldboro . . .	3	48 45
108000	St. Patrick . . .	Canso . . .	18	Geo. L. Avery . . .	Larry's River . . .	6	60 90
107318	St. Stephen . . .	Halifax . . .	19	Moses Cohoon . . .	Canso . . .	5	54 75
116885	T. Lilly . . .	Arichat . . .	10	Thos. David . . .	Port Felix . . .	4	38 60
112019	Triby . . .	Canso . . .	12	Edwd. Flaberty . . .	Canso . . .	5	47 75
116887	True Love . . .	" . . .	10	David Walsh . . .	" . . .	4	38 60
103199	Two Brothers . . .	Canso . . .	14	Fred. Jello . . .	" . . .	7	64 05
107994	Unidella . . .	" . . .	16	Norman Munroe . . .	White Head . . .	6	58 90
107991	Wenona . . .	Arichat . . .	10	Jno. J. Uloth . . .	Cole Hbr . . .	5	45 75

HALIFAX COUNTY.

111436	Adele	Halifax	30	Jno. C. Martin	Ketch Hbr	8	87 20
107313	Alice A.	"	16	Wm. McPherson	Tangier	1	23 15
103507	Annie	"	16	Isaac Bowser	Ostra Lake	4	44 60
103858	B. & B. Holland	"	26	Richard Holland	Duncan's Cove	6	68 90
90466	Black Prince	"	18	Geo. Julien et all	W. Chezzetcook	5	53 75
103853	Dawn	"	13	Harris Corkum	E. Jeddore	3	34 45
111428	Duchess	"	12	Austin Zwickier	Indian Hbr	4	40 60
116512	Effie May	Lunenburg	49	Wm. J. Nauss	Dartmouth	8	106 20
111434	Ermynthrude	Halifax	36	F. J. Darrach	Herring Cove	9	100 35
107320	Eva Gertrude	"	34	And. Sullivan	"	10	105 50
100247	Fairy Queen	"	11	G. H. Nickerson	Pennant	3	32 45

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List of Vessels which received Fishing Bounty, &c.—Nova Scotia—*Con.*HALIFAX COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounties paid.
							8 cts.
85044	Flora.....	Halifax.	42	S. Boutillier	Seabright	5	77 75
116290	Flora, M. J.....	"	78	Jas. Julien et al.....	W. Chezzetcook..	18	206 70
80829	Florence B.....	"	32	Jas. Richardson	W. Jeddore.....	3	53 45
100259	Florence G.....	"	15	Caleb Gray.....	Sambro	3	36 45
116273	Fly	"	10	Jno. Faulkner.....	W. Jeddore.....	4	28 60
107330	Gertie M. Starr.....	"	16	Wm. A. Martin	Necum Teuch....	5	51 75
111432	Gladys Elena	"	16	Chas. W. Twohig	Pennant	3	37 45
107319	Globe.....	"	32	Chas. W. Hart.....	Sambro.....	12	117 80
103544	Grace D.....	"	10	Geo. Slaunwhite.....	Terence Bay	5	45 75
112131	Grace D. Day.....	Shelburne	39	O. Dauphinee.....	Boutillier's Cove.	11	117 65
111747	Grace Darling.....	Lunenburg.....	100	"	"	17	201 55
116731	Grand Desert.....	Halifax.....	65	M. Julien et al.....	W. Chezzetcook..	17	186 55
116738	Gretta.....	"	14	A. Russell et al.....	Claim Hbr.....	3	35 45
116287	Handy Andy	"	15	J. P. Westhaver et al..	Sober Island.....	5	50 75
116284	Janet R.....	"	37	Jno. D. Verge	"	8	94 20
103191	Jennie B.....	Liverpool.....	13	H. Wambolt.....	Indian Hbr.....	4	41 60
100216	Katie M.....	Halifax.....	11	Chas. Nelson.....	Halifax.....	3	32 45
103312	Laura.....	Pt. Hawkesbury	13	Reuben Cooper.....	Tangier.....	3	34 45
116203	Laurel.....	Halifax.....	16	Geo. Pelham	Herring Cove.....	7	66 05
111424	Maggie M.....	"	13	Jas. Marryatt.....	Pennant.....	3	34 45
96805	Maggie May.....	"	62	J. Fillis et al.....	W. Chezzetcook..	18	190 70
116733	Maggie May.....	"	17	F. J. Flemming.....	Ketch Hbr.....	7	67 05
111435	Maggie Wilson	"	36	Edward Dempsey, sr..	Herring Cove.....	11	114 65
111440	M. A. Josey.....	"	17	L. M. Josey.....	Spry Bay.....	4	45 60
100227	May	"	10	Thos. E. Little.....	Terence Bay.....	4	38 60
107757	Mayflower.....	Charlottetown..	18	Geo. L. Baker.....	W. Jeddore.....	4	46 60
116739	Minnie M. Dora.....	Halifax.....	14	Jno. Beaver	Spry Bay.....	3	35 45
116282	Monica A. Thomas.	"	14	Chas. H. Thomas.....	Herring Cove.....	11	124 65
100254	Myrtle M. Gray.....	"	19	Jas. Gray	Pennant.....	9	83 35
85665	Nellie D.....	"	12	Wm. Munroe.....	Sober Island.....	4	40 60
103539	Neva.....	"	11	E. Marryatt.....	Pennant.....	2	25 30
80841	Nina	"	13	Jos. Parker et al.....	Owls Head.....	4	41 60
94677	Progress.....	"	14	D. Richardson	"	4	42 60
96806	Rising Sun	"	28	R. Christian	Prospect.....	6	70 90
116272	Rosie M. B.....	"	75	D. Bonaing et al.....	W. Chezzetcook..	16	189 40
100255	Seaflee	"	12	Robt. Hutt.....	Owls Head.....	3	33 45
112137	Shamrock.....	Shelburne	37	Edwd. Hayes, sr.....	Herring Cove.....	10	108 50
111438	Theresa M. Gray ..	Halifax.....	30	Angus Gray	Pennant.....	11	108 65
103869	Uganda.....	"	14	Jas. B. Stoddard.....	W. Ship Hbr.....	4	42 60
100260	Violet.....	"	12	Jas. H. Smith.....	Sambro.....	3	33 45
116283	Vixen.....	"	13	Robt. Keating.....	Ship Hbr	2	27 30
92578	Willetta.....	"	12	Jos. Gray	Sambro.....	5	47 75
85378	Zephyr.....	"	16	R. J. Slaunwhite.....	Terence Bay.....	6	58 90

INVERNESS COUNTY.

96778	Campania.....	Pt. Hawkesbury	11	C. Robin, Collas Co...	Eastern Hbr....	4	39 60
103313	Catherine.....	"	10	"	"	4	38 60
96825	Cecelia W.....	Halifax.....	41	David Walker.....	Pt. Hawkesbury	5	76 75
103325	Elizabeth Ann.....	Pt. Hawkesbury	11	David Bourgeois.....	Belle Marche.....	5	46 75
83196	Ethel Blanche.....	Pictou	17	Wm. J. Malcom	Pt. Hawkesbury	4	45 60
96774	Florence.....	Pt. Hawkesbury	11	S. Bellefontaine.....	Eastern Hbr....	4	39 60
103317	Flying Star.....	"	11	"	"	5	46 75
107797	Gertie Belle.....	Canso.....	15	C. Robin Collas Co...	"	5	50 75
103316	Laura.....	Pt. Hawkesbury	10	Ubaldo Bourgeois.....	Belle Marche.....	5	45 75
103315	Lillie.....	"	12	P. Fi-et	Eastern Hbr....	6	54 90
96775	Louise	"	11	S. Bellefontaine.....	"	5	46 75
103330	Lucy.....	"	11	T. Maillet	Little River	5	46 75
96779	Majestic.....	"	15	C. Robin, Collas Co...	Eastern Hbr....	4	40 60

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List of Vessels which received Fishing Bounty, &c.—Nova Scotia—*Con.*INVERNESS COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid. \$ cts.
96771	Marie.....	Pt. Hawkesbury	10	John Roach.....	Eastern Hbr....	5	45 75
96777	Marie Joseph.....	"	11	Jno. F. Poirier.....	"	5	46 75
103314	Mary.....	"	10	P. Fiset.....	"	5	45 75
96769	Mary Lambert.....	"	11	Chas. L. Chiasson.....	Little River....	6	53 90
69125	Mayflower.....	Halifax.....	20	Hyac. Chiasson.....	Eastern Hbr....	7	70 05
96770	O. L. B.....	Pt. Hawkesbury.	12	Thos. Lebrun.....	Grand Etang....	4	40 60
100448	Surprise.....	Canso.....	15	Daniel McDonell.....	Judique.....	4	43 60
111792	St. Aubin.....	Pt. Hawkesbury.	15	C. Robin, Collas Co.....	Eastern Hbr....	6	57 90
103329	St. Helier.....	"	12	"	"	4	40 60
96773	Virgin.....	"	10	M. J. Ramard.....	"	5	45 75
111794	Volunteer.....	"	14	Wm. A. Grant.....	Long Point.....	2	28 30
111793	Walla Walla.....	"	11	S. Bellefontaine.....	Eastern Hbr....	5	46 75
96776	Willie B.....	"	21	"	"	5	56 75
100812	Wyvern.....	Barrington.....	25	Patrick Lefort.....	"	9	89 35

KING'S COUNTY.

83261	Economist.....	Digby.....	14	Jesse Parker.....	Hall's Hbr.....	2	28 30
80001	Florence.....	St. John.....	15	H. Rawding.....	Canada Creek....	2	29 30
97150	Gleaner.....	St. Andrews.....	13	Roscoe J. Cook.....	Harbourville....	2	27 30
100542	Jessie.....	Digby.....	17	A. E. Spicer.....	"	4	45 60
100745	Linnet.....	Windsor.....	14	John Foster.....	Wolfville.....	4	42 60
94756	Sarah E. Ellis.....	St. John.....	19	L. Houghton.....	Hall's Hbr.....	3	40 45

LUNENBURG COUNTY.

112126	Acadia.....	Lunenburg.....	91	Alex. Knickle.....	Lunenburg.....	17	201 55
111641	Aguadilla.....	"	100	Freeman Anderson.....	"	18	208 70
107953	Ahava.....	"	85	Wm. C. Smith.....	"	17	201 55
100846	Albatross.....	"	25	Artemas Zinck.....	Ritcey's Cove....	5	61 75
111728	Alameda.....	"	93	Chas. L. Silver.....	Lunenburg.....	17	201 55
107657	Alcaea.....	"	99	Alex. Knickle.....	"	17	201 55
112115	Aldine.....	"	99	A. V. Conrad.....	Parks Creek.....	6	122 90
112107	Alexandra.....	"	93	Freeman Anderson.....	Lunenburg.....	17	201 55
111647	Alhambra.....	"	90	Thos. Hamm.....	"	18	208 70
111738	Alice Gertrude.....	"	81	J. N. Rafuse.....	Conquerall Bank	21	230 15
112105	Alma Nelson.....	"	99	C. Geldert.....	Lunenburg.....	18	208 70
112101	Ambition.....	"	100	Wm. Conrad.....	Rose Bay.....	20	223 00
111737	Annie M. W.....	"	89	J. N. Wolfe.....	Getson's Cove....	17	201 55
111750	Arabia.....	"	80	David Heisler.....	Lunenburg.....	18	208 70
116499	Arkansas.....	"	111	Jno. B. Young.....	"	16	194 40
112122	Atalaya.....	"	79	S. D. Hernan.....	"	17	200 55
103495	Athlou.....	"	99	Wm. C. Smith.....	"	18	208 70
112088	Australia.....	"	89	Jno. W. McLean.....	Malhona Bay....	8	137 20
111740	Azalia.....	"	80	Jas. A. Hirtle.....	Lunenburg.....	17	201 55
111412	Baden Powell.....	"	94	Benj. Knock.....	"	17	201 55
103501	Barcelona.....	"	99	Jas. Romkey.....	Riverport.....	17	201 55
116498	Beatrice S. Mack.....	"	99	Wm. C. Smith.....	Lunenburg.....	17	201 55
111734	Blake.....	"	99	J. N. Rafuse.....	Conquerall Bank	20	223 00
100838	Blanche A. Colp.....	"	96	A. Westhaver.....	Lunenburg.....	17	201 55
100371	Britannia.....	"	90	Willet Conrad.....	Rose Bay.....	16	194 40
111732	Calavera.....	"	90	Abner Conrad.....	"	18	208 70
112128	Campania.....	"	90	Thos. Romkey.....	Lunenburg.....	17	201 55
112118	Campanula.....	"	93	Howard Whynacht.....	"	17	201 55
103502	Carfaine.....	"	99	Arch. Himmelman.....	"	17	201 55
112116	Cardina.....	"	100	F. Anderson.....	"	17	201 55
116505	Cavalier.....	"	70	W. N. Reinhardt.....	La Have.....	15	177 25
111749	Champion.....	"	79	J. Publicover.....	Dublin Shore....	16	193 40

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List of Vessels which received Fishing Bounty, &c.—Nova Scotia—*Con.*LUNENBURG COUNTY—*Continued.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							\$ cts.
111415	Clara.....	Lunenburg	100	Abraham Ernst.....	Mahone Bay....	20	223 06
111739	Clarence B.....	"	90	"	"	14	180 10
103415	Clarence Smith.....	"	96	Wm. C. Smith.....	Lunenburg	18	208 70
111702	Colonia.....	"	98	A. H. Zwicker.....	"	17	201 55
107122	Collector.....	"	99	W. N. Reinhardt.....	La Have.....	17	201 55
103759	Columbia.....	"	99	S. Corkum.....	Lunenburg.....	17	201 55
116497	Commander.....	"	69	Jno. Schmeisser.....	E. M. La Have.....	16	183 40
107966	Companion.....	"	95	J. Publicover.....	Dublin Shore.....	17	201 55
111743	Corean.....	"	70	J. N. Rafuse.....	Conquerall Bank	18	198 70
111736	Coronation.....	"	98	Wm. Miller.....	Lunenburg.....	18	208 70
111708	Crofton McLeod.....	"	85	John W. McLean.....	Mahone Bay.....	14	180 10
111637	Cyril.....	"	100	Thos. A. Wilson.....	Bridgewater.....	18	208 70
111405	Deeta M.....	"	81	Jno. McLean.....	Mahone Bay.....	15	187 25
111711	Defender.....	"	98	Alex. Knickle.....	Lunenburg.....	19	215 85
111710	Demering.....	"	85	Jessen Anderson.....	"	17	201 55
107986	Dove.....	"	95	Wm. C. Acker.....	"	16	194 40
111730	Earle V.S.....	"	100	H. Whynacht.....	"	17	201 55
111748	Elena.....	"	73	Wm. Schmeisser.....	E. M. La Have.....	18	201 70
112099	Electro.....	Liverpool.....	10	J. C. Hanson.....	Mahone Bay.....	1	17 15
107127	Ellen L. Maxner.....	Lunenburg	88	E. Walters.....	Parks Creek.....	20	223 00
116506	E. M. Zellars.....	"	93	Henry Adams.....	Lunenburg.....	16	194 40
107123	Emulator.....	"	84	E. Zellars.....	"	18	208 70
112087	Ethel.....	"	99	Stephen Oxner.....	Riverport.....	17	201 55
111727	Excelda.....	"	99	W. N. Reinhardt.....	La Have.....	18	208 70
103743	Flo F. Mader.....	"	100	Chas. L. Silver.....	Lunenburg.....	19	215 85
111406	Flora W. Sperry.....	"	100	C. U. Mader.....	Mahone Bay.....	17	201 55
111401	Frances Willard.....	"	95	Jno. D. Sperry.....	Petite Riviere.....	17	201 55
111746	Fredonia.....	"	97	Jas. A. Hirtle.....	Lunenburg.....	15	187 25
116495	George R. Alston.....	"	92	C. U. Mader.....	Mahone Bay.....	17	201 55
103753	Gladys B. Smith.....	"	99	A. V. Conrad.....	Parks Creek.....	17	201 55
111742	Glenwood.....	"	99	Wm. C. Smith.....	Lunenburg.....	19	215 85
103752	Glyndon.....	"	99	David Heisler.....	"	17	201 55
116507	Golden Rod.....	"	99	Reuben Romkey.....	Riverport.....	17	201 55
107289	G. S. Troop.....	"	76	Joseph Silver.....	Dayspring.....	16	190 40
112129	Hattie.....	"	99	L. B. Currie.....	West Dublin.....	17	201 55
111640	Hazel L. K.....	"	12	Robt. Walfield.....	La Have Ids.....	4	40 60
116442	Helen C. Morse.....	"	88	Thos. Hamm.....	Lunenburg.....	17	201 55
107659	Hilda C.....	"	98	Jno. Westhaver.....	"	18	208 70
112109	Hispaniola.....	"	99	S. W. Oxner.....	"	18	208 70
107128	Huron.....	"	91	Adam Knickle.....	"	17	201 55
106607	Icelda.....	"	84	Henry Wilson.....	"	17	201 55
103174	Iona.....	Shelburne	19	Jno. S. Wolfe.....	West Dublin.....	4	47 60
107956	Iona.....	Lunenburg	15	N. Chandler.....	Chester.....	5	50 75
112089	Iona W.....	"	98	Thos. Heckman.....	Lunenburg.....	17	201 55
111726	Juanita.....	"	78	Abraham Ernst.....	Mahone Bay.....	14	178 10
100837	J. M. Young.....	"	100	Wm. C. Smith.....	Lunenburg.....	15	187 25
107960	J. W. Mills.....	"	99	Jno. B. Young.....	"	17	201 55
107969	Kandahar.....	"	76	J. W. Mills.....	Mahone Bay.....	15	183 25
107970	Karmoe.....	"	100	Wm. C. Smith.....	Lunenburg.....	17	201 55
116509	Kasaga.....	"	97	Ammon Ritcey.....	Riverport.....	18	208 70
111404	Kimberley.....	"	59	Jas. Bell.....	Dublin Shore.....	14	159 10
111635	Latooka.....	"	92	C. U. Mader.....	Mahone Bay.....	18	208 70
107126	Lena F. Oxner.....	"	99	A. V. Conrad.....	Parks Creek.....	17	201 55
107660	Lila D. Young.....	"	99	Jas. Geldert.....	Lunenburg.....	17	201 55
107129	Lilla B. Hirtle.....	"	100	Jno. B. Young.....	"	17	201 55
103760	Lillian.....	"	99	Benj. Anderson.....	"	17	201 55
111717	Linus A.....	"	84	Allan R. Morash.....	"	19	215 85
83316	Lottie.....	Port Medway	70	Amiel Corkum.....	E. M. La Have.....	15	177 25
111634	Loyal.....	Lunenburg	76	Jas. Teel.....	Broad Cove.....	17	197 55
111735	Lucania.....	"	99	Abraham Ernst.....	Mahone Bay.....	17	201 55
103420	Luetta.....	"	99	Reuben Romkey.....	Riverport.....	18	208 70
			98	W. N. Reinhardt.....	La Have.....	21	230 15

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List of Vessels which received Fishing Bounty, &c — Nova Scotia—*Con.*

LUNENBURG COUNTY.

Official Number.	Names of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid. \$ cts.
107120	Madeira.....	Lunenburg.	99	Theo. Creaser.....	Riverport.	18	208 70
112112	Maimie Dell.....	"	98	C. U. Mader.....	Mahone Bay.....	14	180 10
112095	Manhattan.....	"	100	Wm. C. Smith.....	Lunenburg.....	18	208 70
111709	Mariner.....	"	100	Wm. Parks.....	Parks Creek.....	17	201 55
112123	Marion.....	"	72	J. N. Rafuse.....	Conquerall Bank	17	193 55
112110	Markland.....	"	99	Jno. W. McLean.....	Mahone Bay.....	19	215 85
112119	Mary E. Smith.....	"	99	Wm. C. Smith.....	Lunenburg.....	18	208 70
107967	May Myree.....	"	89	Elias Richard Sr.....	Getson's Cove.....	20	223 00
112086	Melba.....	"	6	Jno. D. Sperry.....	Petite Rivière.....	12	146 80
112100	Meteor.....	"	99	Theo. Creaser.....	Riverport.....	17	201 55
107111	Millie Mace.....	"	99	Wm. C. Smith.....	Lunenburg.....	17	201 55
111408	Mindoro.....	"	91	Wm. C. Smith.....	"	18	208 70
107952	Minnie M. Cook.....	"	84	William C. Smith.....	Lunenburg.....	18	208 70
116503	Minnie Pearl.....	"	97	Thos. Hamm.....	"	17	201 55
111701	Mizpah.....	"	100	Jno. B. Young.....	"	18	208 70
111645	Moran.....	"	100	Daniel Getson.....	Getson's Cove.....	16	194 40
103758	Muriel.....	"	110	Elias Walters.....	Lunenburg.....	17	201 55
107968	New Era.....	"	116	Reuben Ritcey.....	Riverport.....	17	201 55
112104	Nina.....	"	10	Jno. Geldert.....	Lunenburg.....	3	31 45
116502	Oceanic.....	"	99	Reuben Ritcey.....	Riverport.....	18	208 70
116500	Oreda.....	"	16	Henry Selig.....	Vogler's Cove.....	3	37 45
112106	Oregon.....	"	99	Stephen Oxner.....	Riverport.....	17	201 55
112120	Oressa Belle.....	"	95	P. B. Zwicker.....	Mahone Bay.....	18	208 70
112124	Palanda.....	"	78	C. U. Mader.....	"	14	178 10
111642	Palatia.....	"	95	Chas. L. Silver.....	Lunenburg.....	17	201 55
111725	Palmetto.....	"	98	Chas. Smith.....	"	15	187 25
112113	Parana.....	"	99	Daniel Lohnes.....	Riverport.....	18	208 70
112125	Pearl.....	"	14	Solomon Richard.....	Pleasantville.....	5	49 75
111712	Peerless.....	"	95	A. H. Zwicker.....	Lunenburg.....	17	201 55
107635	Premier.....	"	99	Simon Parks.....	Parks Creek.....	17	201 55
111402	Protector.....	"	95	Thos. A. Wilson.....	Bridgewater.....	20	223 00
111648	Riviera.....	"	96	Andrew Ross.....	E. M. La Have.....	21	230 15
111723	Ronanoke.....	"	100	Abraham Ernst.....	Mahone Bay.....	18	208 70
107125	Roma.....	"	99	Gabriel Himmelman.....	Riverport.....	17	201 55
111741	Saratoga.....	"	92	C. U. Mader.....	Mahone Bay.....	17	201 55
107963	Shanrock.....	"	89	Alex. Knickle.....	Lunenburg.....	16	194 40
112108	Speculator.....	"	99	James Wamback.....	Parks Creek.....	17	201 55
111744	Stanley.....	"	100	Thos. A. Wilson.....	Bridgewater.....	17	201 55
111407	Strathcona.....	"	89	Freeman Anderson.....	Lunenburg.....	16	194 40
103500	St. Helena.....	"	99	Howard Whynacht.....	"	17	201 55
111713	T. A. Mahone.....	"	64	Abraham Ernst.....	Mahone Bay.....	5	99 75
111636	Tasmania.....	"	99	Howard Whynacht.....	Lunenburg.....	17	201 55
111707	Tidal Wave.....	"	75	J. N. Rafuse.....	Conquerall Bank	18	203 70
107651	Torata.....	"	92	J. H. Wilson.....	Lunenburg.....	17	201 55
111733	Transvaal.....	"	79	Wm. C. Smith.....	"	15	186 25
112114	Tribune.....	"	22	Henry Hamm.....	"	6	64 90
112117	Ulva.....	"	99	A. V. Conrad.....	Parks Creek.....	17	201 55
107957	Ungava.....	"	88	Wm. Cleversey.....	Pleasantville.....	19	215 85
116510	Uranus.....	"	90	Jas. Young.....	Lunenburg.....	19	215 85
116496	Valoria.....	"	93	Allan R. Morash.....	"	18	208 70
111731	Vendetta.....	"	93	Thos. Hamm.....	"	17	201 55
107964	Vernie May.....	"	76	Abraham Ernst.....	Mahone Bay.....	16	190 40
100811	Vesta Pearl.....	"	40	William C. Smith.....	Lunenburg.....	7	90 75
111409	Victoria.....	"	100	W. N. Reinhardt.....	La Have.....	18	208 70
103504	Viking.....	"	96	Artemas Schnare.....	Lunenburg.....	17	201 55
111403	Willis C. Silver.....	"	82	Aniel Corkum.....	E. M. La Have.....	18	208 70
116504	W. C. Silver.....	"	97	Kenneth Silver.....	Dayspring.....	22	237 30
111649	W. S. Wynot.....	"	100	C. U. Mader.....	Mahone Bay.....	13	172 95
112127	Yamaska.....	"	98	P. B. Zwicker.....	"	17	201 55
111419	Yukon.....	"	97	Arthur Ritcey.....	Riverport.....	17	201 55

LIST of Vessels which received Fishing Bounty, &c.—Nova Scotia — *Con.*

PICTOU COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid. \$ cts.
107961	Ada Mildred	Pictou.....	99	Jas. Yorston.....	Pictou.....	20	223 00
103593	Jessie & Ada.....	Charlottetown..	14	Geo. Heather.....	Pugwash.....	1	21 15

QUEEN'S COUNTY.

83134	Infant.....	Lunenburg.....	15	Wm. J. Collins.....	Summerville...	3	36 45
116483	Louisa A.....	Liverpool....	10	Reuben J. Colp.....	Port Mouton...	4	38 60
92568	Mary Kate.....	Shelburne....	13	Ratchford Burgess...	S.W. P. Mouton	5	48 75
103412	Minnie B.....	Lunenburg....	25	J. F. Wolfe.....	Port Medway...	7	75 05
94833	News Boy.....	Port Medway...	19	Wm. Atkins.....	".....	5	51 75
116351	Percy Roy.....	".....	99	J. F. Wolfe.....	".....	18	208 70
100608	Vesper.....	Shelburne....	14	Robt. Williams.....	S.W. P. Mouton	4	42 60

RICHMOND COUNTY.

88456	Alice May.....	Arichat.....	39	Wm. I. LeVesconte...	Riv. Bourgeois..	7	89 05
116344	Annie B. M.....	".....	18	W. Monbourquette...	L'Ardoise West..	6	60 90
103463	Annie May.....	".....	11	Placide Dugas.....	Riv. Bourgeois..	2	25 30
111472	Annie May.....	".....	17	Jas. Monbourquette...	Rockdale.....	3	38 45
75561	Boreas.....	Lunenburg....	41	John Colford.....	Port Richmond..	7	91 05
74100	Candid.....	Arichat.....	23	Desire Burke.....	Riv. Bourgeois..	7	73 05
72061	C. P. M.....	".....	22	Alexander Burke...	".....	6	64 90
59484	Day Spring.....	Halifax.....	36	Andrew Fougere...	".....	10	107 50
116343	Eva May.....	Arichat.....	11	Thos. A. Boudrot....	Petit de Grat....	3	32 45
88462	Fannie S.....	".....	28	Jno. Murray.....	Port Richmond..	3	49 45
100383	Florence L.....	Sydney.....	10	Celestin Cordeau....	Riv. Bourgeois..	4	38 60
112380	Florence M.....	Arichat.....	25	Adol. Monbourquette.	L'Ardoise West..	6	67 90
116348	Florence M.....	".....	16	Wm. J. Martell.....	Petit de Grat....	5	51 75
97046	Fredona.....	Liverpool....	12	Dosithe Fougere....	Riv. Bourgeois..	2	26 30
90436	Genesta.....	Barrington...	32	Jos. Walker.....	Basin R. I.....	5	67 75
116883	Grayling.....	Arichat.....	25	Wm. H. Reeves.....	Melford.....	5	60 75
88599	Guide.....	".....	38	Edward Poirier....	Goulet.....	12	123 80
80643	Hazel Dell.....	Yarmouth....	87	Robt. Murray et al..	Port Richmond..	3	101 45
100161	Hilda Maud.....	Pt. Hawkesbury	46	Jno. D. Malcom.....	Port Malcom....	8	103 20
111474	Howler.....	Arichat.....	15	Peter J. Dorey.....	Janvrin Island..	1	22 15
103470	Ida M. Burke....	".....	16	Samuel Burke.....	St. Peters.....	6	58 90
111476	Indianna.....	".....	11	Joseph Petitpas....	Arichat.....	3	32 45
100490	Irene M. B.....	Lunenburg....	66	Fredk. Poirier.....	Descoussé.....	16	180 40
83135	J. B. M.....	Halifax.....	20	Jno. Landry.....	Petit de Grat....	4	48 60
112374	J. B. Saint.....	Arichat.....	18	Benj. J. Birett.....	L'Ardoise.....	3	39 45
103469	Kate B.....	".....	16	Jno. Burke.....	Riv. Bourgeois..	6	58 90
103458	K. McKenzie.....	".....	17	W. P. Groome.....	Grand Greve....	3	38 45
111480	Lady Laurier....	".....	12	Simon A. Boudrot....	Petit de Grat....	5	47 75
111905	Lena Jane.....	".....	11	Dom. Boudrot.....	".....	5	46 75
111901	Lillian Louise...	".....	12	Chas. P. Boudrot....	".....	3	33 45
112377	Lilly May.....	".....	18	Daniel Wilson.....	Rocky Bay.....	3	39 45
103467	Lizzie May.....	".....	12	Alfred Boudrot.....	Petit de Grat....	5	47 75
116349	Lorna.....	".....	18	Simon Landry.....	Riv. Bourgeois..	6	60 90
72071	Lumen Diel.....	".....	20	Urban Sampson.....	".....	4	48 60
116350	Maggie F.....	".....	15	Patrick Fougere....	".....	4	43 60
107995	Maggie M. F.....	Canso.....	15	H. D. Rindress.....	Arichat.....	3	36 45
103532	Maria A.....	Halifax.....	22	John Walker.....	Basin R. I.....	3	43 45
107769	Martha B.....	Charlottetown..	19	Colin Matheson.....	Grand River....	4	47 60
116345	Mary Alice.....	Arichat.....	10	Patk. E. Sampson...	L'Ardoise.....	3	31 45
85388	Mary Alice.....	Halifax.....	21	Edward Malcom.....	Port Malcom....	4	49 60

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LEST of Vessels which received Fishing Bounty, &c.—Nova Scotia—*Con.*RICHMOND COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner. of Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid. \$ cts.
111479	Mary Atalanta	Arichat	15	Peter Bouchard	Riv. Bourgeois.	5	50 75
116881	Mary M.	"	21	David Martell	L'Ardoise	5	56 75
111475	Mary Matilda	"	15	Joseph Burke	St. Peters	6	57 90
103462	Maud	"	20	Henry Duyon	Arichat	4	48 60
112379	Mary S.	"	18	James Sampson	L'Ardoise	5	53 75
111907	Minnie A.	"	46	Anselm Sampson	Riv. Bourgeois.	11	124 65
111904	Minnie L.	"	15	Elias Bois	Petit de Grat	3	36 45
116346	Native of Foucher	"	16	Jno. D. McLeod	Fourchie	4	44 60
100895	New Home	Weymouth	31	David Boudrot	Petit de Grat	8	88 20
74365	Nova Stella	Arichat	53	Léon N. Poirier	Descousse	15	160 25
64018	Ocean Bride	Halifax	23	Henry Richard	Arichat	3	44 45
85562	Oresa	"	14	Jno. F. Proctor	Port Malcom	2	28 30
100231	Pearl	"	17	Fredk. Boudrot	Petit de Grat	6	59 90
72067	Philomene D	Arichat	22	Jno. Pelham	Janvrin Island	4	50 60
100477	Pilot	Lunenburg	42	Wm. Proctor	R. Inhabitants	6	84 90
116341	Preroma	Arichat	17	Placide Bouchard	Riv. Bourgeois	6	59 90
92571	Primrose	Halifax	14	Elias V. Landry	Petit de Grat	5	49 75
88504	Quickestep	Sydney	12	Isaiah Boudrot	"	4	40 60
111903	Stella	Arichat	11	Camille Boucher	"	3	35 45
103461	St. Lidwina	"	11	Benj. Peters	L'Ardoise	4	39 60
111902	St. Thomas	"	10	Thos. Pottie, sr.	Rockdale	4	38 60
103460	Two Brothers	"	18	Morice Peters	L'Ardoise	6	60 90
100575	Tyler	"	54	Chas. Boudrot	Riv. Bourgeois	14	154 10

SHELBURNE COUNTY.

94632	A. C. Greenwood	Shelburne	15	Thos. D. Goodick	Sandy Point	6	57 90
103793	Agatha	"	92	J. H. Thourbourn	"	18	208 70
100617	Altona	"	28	Wm. McMillan	Lockeport	9	92 35
100612	Ardelta	"	10	Eleazar Crowe	Sandy Point	4	38 60
116824	Avis Pauline	Barrington	12	Peter Kenny	Clarks Harbour	2	26 30
126828	Beatrice	"	12	Frank A. Swin	"	4	40 60
103186	Brittania	Shelburne	11	Ross Enslow	W. Green Hbr.	5	46 75
96970	Charlie Richardson	"	26	Jno. B. Harding	Lockeport	8	83 20
116826	Claremont A.	Barrington	11	Samuel Penny	Clarks Hbr.	3	32 45
107058	Delfie	"	20	A. Madden	Baccaro	8	77 20
107057	Dollie Varden	"	10	Freeman Atwood	Atwood's Brook	3	31 45
77603	Eldon C.	"	27	Josiah Thomas	Cape Negro	9	91 35
103795	Etta Vaughan	Shelburne	98	B. Thorbourn	Sandy Point	21	230 15
107054	Favorite	Barrington	28	David S. Slate	Cape Negro	8	85 20
116443	Flora MacIvor	Shelburne	58	Edgar McCarthy	Shelburne	7	108 05
107350	Forrester	"	23	J. E. Pennington	Sandy Point	6	65 90
112138	Gladiator	"	11	Geo. R. Enslow	McNutt's Island	2	25 30
111683	Greenwood	"	71	E. P. Greenwood	N. E. Harbour	18	199 70
107342	Harry C. Ellis	Yarmouth	16	S. E. Countaway	N. E. Point	3	37 45
90647	Hattie Emeline	"	11	Chas. A. Reynolds	Up. Pt. La Tour	6	49 75
80799	Hattie T.	Barrington	16	Herbert Kendrick	Shag Hbr	7	66 05
107060	Herald	"	42	Paul E. Crowell	Barrington	10	113 50
111687	Ida M. Clarke	Shelburne	99	Wm. McMillan	Lockeport	22	237 30
116822	Jennet	Barrington	11	Thos. A. Kenney	Clarks Hbr.	3	32 45
116823	Jessie Roy	"	12	Job. A. Crowell	"	4	40 60
111684	Julian H. Archer	Shelburne	99	Churchill Locke	Lockeport	13	215 85
73667	Katie	Liverpool	14	Jas. Eisenhaur	Allendale	6	56 90
107981	Kestrel	Shelburne	99	Geo. A. Cox	Shelburne	21	230 15
90438	Lark	Barrington	13	Thos. Ross	Up. Pt. La Tour	6	55 90
94661	L. C. Tough	Shelburne	12	Edgar H. Swaine	Blanche	5	47 75
103796	Mabel Denvers	"	14	David T. Horton	Up. Pt. La Tour	5	49 75
116829	Maple Leaf	Barrington	11	Chas. Atkinson	Newellton	4	39 60
83493	Mary C.	Liverpool	84	Jno. A. Harding	Osborne	8	137 20

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LIST of Vessels which received Fishing Bounty, &c.—Nova Scotia—*Con.*SHELBURNE COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							\$ cts.
83434	Mary May	Shelburne	20	Adam J. Firth	Shelburne	6	62 90
103057	Mayflower	Yarmouth	12	Albert Crowell	Lockeport	5	47 75
111700	Miriam F	Liverpool	11	Spencer Pierce	E. Sable River	1	18 15
103175	Myrtle	Shelburne	10	Wm. Wolfe	Pt. Le Herbert	5	45 75
103800	Nellie I. King	"	99	Geo. H. King	Sandy Point	21	230 15
100820	Ranger	Barrington	11	Job. H. Duncan	Clarke Hbr.	4	39 60
107059	Reginald R	"	16	Thos. E. Worthen	Barrington	2	30 30
116447	San Juan	Shelburne	42	Churchill Locke	Lockeport	2	56 30
90648	Stranger	Barrington	20	Ira P. Brown	Stoney Island	8	77 20
107900	Terence C. Lockw'd	Shelburne	98	Wm. McMillan	Lockeport	22	237 30
116589	Thistle	Liverpool	40	Hugh McAlpine	"	12	125 80
90893	Thomas H.	Yarmouth	13	Moses G. Smith	Clarks Hbr.	5	48 75
96961	Tivoli	Shelburne	24	Wm. J. Doane	Red Head	6	66 90
116448	Togo	"	18	Edmund C. Locke	Lockeport	5	53 75
77741	Whip poor Will	"	17	Alex. Perry	Red Head	6	59 90
103183	Wren	"	22	Leslie Hamilton	Charleton Vill'e	4	50 60
77722	Yuba	Yarmouth	15	Foster Salisbury	Port La Tour	6	57 90
116449	Zephyr	Shelburne	11	Samuel Greenwood	Port Saxon	3	32 45

VICTORIA COUNTY.

112388	Annie Amelia	Sydney	13	Mathew Hawley	Ingonish Ferry	5	48 75
112384	Columbia	"	10	D. C. Williams	South Ingonish	4	38 60
107379	Maggie	"	11	C. J. Williams	"	5	46 75
107377	Maggie Ella	"	11	W. T. Donovan	"	6	53 90
107355	Mary E.	"	10	Allan McIntyre	Ingonish Ferry	3	31 45
112386	Shamrock	"	11	Angus McDonald	South Ingonish	6	53 90
100444	Stella May	Canso	12	Cape Breton Fish'g Co.	"	4	40 60

YARMOUTH COUNTY.

116557	Alice M.	Yarmouth	26	Zacharie D'Eon	West Pubnico	7	76 05
111879	Annie B.	"	20	Theo. D'Entremont	"	8	117 20
116654	Arbutus	"	61	H. S. Leblanc	"	16	175 40
94980	Aurore	"	86	Jos. V. D'Entremont	"	19	215 85
103187	Ben Bolt	"	90	A. F. Stoneman & Co.	Yarmouth	16	194 40
107053	Bonnie Lin.	Barrington	10	Edgar Landers	Sandford	3	31 45
107346	Caddie	Yarmouth	10	Jas. E. Perry	Port Maitland	4	38 60
116652	Champion	"	29	Cerezo Johnson	Yarmouth	8	86 20
111836	Chevalier	Digby	11	Fred. W. Sollows	Port Maitland	4	39 60
116891	Claude B. Daley	Yarmouth	25	Angus Daley	Pubnico Head	3	46 45
111871	Coronation	"	98	A. F. Stoneman & Co.	Yarmouth	18	208 70
106605	Dawn	Barrington	49	Henry A. Amiro	West Pubnico	6	91 90
116205	Eddie James	Yarmouth	79	"	"	20	222 00
112280	Edith L.	Digby	26	Jas. A. Adams	Port Maitland	6	68 90
107332	Estelle	Yarmouth	15	Stillman Smith	Lower Argyle	2	29 30
94972	Florence	"	19	Frank Harris	Yarmouth	5	54 75
112282	Florence H.	Digby	20	Riley Haskell	Port Maitland	6	62 90
111876	Geneva May	Yarmouth	72	D. D'Entremont	W. Pubnico	18	200 70
116209	George	"	23	T. D'Entremont	"	6	65 90
90885	Georgiana	"	90	Henry Lewis	Yarmouth	21	230 15
103717	Henry L.	"	10	A. C. D'Entremont	W. Pubnico	4	38 60
116204	Laurie J.	"	65	Julien D'Entremont	"	19	200 85
59388	Letitia	Pubnico	10	Howard A. Goodwin	E. Pubnico	4	38 60
103709	Lizzie E.	Yarmouth	19	E. Juston Ellis	Port Maitland	5	54 75
80614	Louise	"	85	J. H. Porter & Co.	Tusket Wedge	8	137 20
103718	Lucy	"	10	Amb. D'Entremont	W. Pubnico	10	10 00
116658	Mabel A.	"	15	Peter A. Amiro	"	5	50 75

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LIST of Vessels which received Fishing Bounty, &c.—Nova Scotia—*Con.*YARMOUTH COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner. or Managing Owner.	Residence.	No. of Crew Paid.	Amount of Bounty Paid. \$ cts.
88596	M. A. Louis.	Yarmouth.....	64	A. F. Stoneman & Co.	Yarmouth.....	20	207 00
107237	Marguerite	"	57	L. P. D'Entremont...	W. Pubnico...	16	171 40
111523	Mildred P.	Digby.....	11	Jas. W. Haskell	Port Maitland..	4	39 60
112288	Nellie D.	"	32	H. S. LeBlanc	W. Pubnico	12	117 80
111875	Nelson A.	Yarmouth.....	72	Henry A. Amiro.	"	20	215 00
103706	Regine.	"	10	L. A. D'Entremont..	"	1	17 15
111521	Retta E.	Digby.....	10	Calvin Sollows.....	Port Maitland..	4	38 60
88589	Sanford	Yarmouth.....	20	W. A. Killam.	Yarmouth.....	1	27 15
100323	Senora.	"	85	Marc A. Surette.....	W. Pubnico.....	22	237 30
116656	Silver Spray	"	11	Thos. Goodwin.	Glenwood	1	18 15
111313	Souvenir.	"	71	S. D. D'Entremont..	W. Pubnico	19	206 85
103716	Valkyrie.	"	11	Ernest Hines.	Argyle Sound..	3	32 45

PROVINCE OF NEW BRUNSWICK.

CHARLOTTE COUNTY.

83478	Argyle.....	St. Andrews...	10	Burden Brown.....	Wilson's Beach..	2	24 30
107913	Arnold B.	"	10	Henry H. Cheney...	White Head.....	3	41 45
111557	Audley R.	"	19	S. R. Watt	Flagg's Cove...	3	40 45
107603	Augusta Evelyn...	St. John.....	31	James Scovil.....	"	6	73 90
107903	Ava M.	St. Andrews	17	Geo. A. Johnson.....	Woodw'rd's Cove	3	38 45
111503	Bonnie Jean.	St. John.....	12	Frank Ingersoll.....	Flagg's Cove.....	4	40 60
103128	Britannia.	St. Andrews...	22	Wm. Cline.....	Wilson's Beach.	2	36 30
107905	Centennial	"	16	Jno. F. Morse.....	White Head.....	5	51 75
107304	Clara A. Benner...	"	37	Simon Brown.....	Wilson's Beach	7	87 05
88253	E. B. Colwell	St. John.....	19	Geo. A. Lahey.....	Flagg's Cove.....	5	54 75
103114	Edward Morse	St. Andrews	32	Alex. Calder.....	Welshpool.....	6	74 90
80882	Ella Mabel.....	"	14	Eldorado Lee.....	Beaver Hbr.	2	28 30
80803	Exenia.....	Windsor.....	18	Wm. Sparks.....	Flagg's Cove.....	5	53 75
100535	Fair Play.....	Yarmouth.....	11	Luke Holmes.....	Beaver Hbr.	2	25 30
88276	Falcon.....	St. Andrews...	12	Jno. F. Cronk.....	Flagg's Cove.....	4	40 60
111552	Flora B.	"	13	Nelson Ingersoll.....	Woodw'rd's Cove	2	27 30
116676	Fram.....	"	17	Orville Wilcox.....	Seal Cove.....	4	45 60
107915	Freddie L.	"	15	Edward Benson.....	"	2	29 30
107910	Grace & Ethel.....	St. Andrews...	16	Robt. Ingersoll.....	Woodward's C.	5	51 75
111551	Guior.....	"	17	W. M. Kent.....	Grand Hbr.	4	45 60
111839	Harry C.	Digby.....	16	Frank Cross et al.	Beaver Hbr.	2	30 30
83463	Havelock.....	St. Andrews...	33	Wm. James.....	Wilson's Beach.	4	61 60
116677	Hazel L.	"	15	Manford Lorimer.....	Grand Hbr.	2	29 30
103119	Hortense.....	"	15	Wm. J. Morse.....	White Head.....	4	43 60
103997	Jesse James	"	11	J. Frankland.....	"	4	39 60
112316	Jessie C.	"	18	Jno. M. Calder.....	Welshpool.....	4	46 60
77766	Laconic.....	Shelburne	15	Jno. Dixon.....	Flagg's Cove.....	3	36 45
107901	Lady Aberdeen.	St. Andrews...	18	Reed Brown.....	Grand Hbr.	5	53 75
88273	Lillian E.	"	13	S. L. Dakin.....	Beaver Hbr.	3	34 45
92514	Maggie Jane.....	"	10	Alex. McNichol.....	Letete.....	4	38 60
107912	Mary & Hilda.....	"	17	Nancy Gupitill.....	White Head.....	2	31 30
107802	Meteor.....	St. John.....	13	S. R. Watt.	Flagg's Cove.....	5	48 75
85442	Mystery.....	St. Andrews...	14	John R. Moses.....	"	5	49 75
107920	Nellie L.	"	17	Austin Levy.....	Grand Hbr.	3	38 45
112318	N. N. Gray.....	"	13	Wilson Finch.....	Welshpool.....	2	27 30
92518	Peil.....	"	18	Martin Eldridge.....	Beaver Hbr.	4	46 60
103903	Pythian Knight.	"	19	Frank Ingersoll.....	Flagg's Cove	6	61 90
107806	Rena F.	St. John.....	12	Jno. Ingersoll.....	Woodward's C've	3	33 45
83253	Rescue.....	Annapolis	17	James Nesbitt.....	Flagg's Cove.....	5	52 75
83132	Restless.....	Digby.....	25	S. L. Dakin	Beaver Hbr.	4	53 60
75864	Roving Lizzie.	Weymouth.	11	Jno. Ward.....	Seely's Cove	4	39 60
111556	She Said No.	St. Andrews...	11	Jno. R. Moses.....	Flagg's Cove.....	3	32 45

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LIST of Vessels which received Fishing Bounty, &c.—New Brunswick—*Con.*CHARLOTTE COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner. or Managing Owner.	Residence.	No. of Cows paid.	Amount of Bounty paid.
							\$ cts.
107433	Sir John.....	St. Andrews	11	Hiram Morse.....	White Head....	3	32 45
59887	Telephone.....	"	19	Jas. Brown.....	Wilson's Beach..	3	40 45
107440	Three Links.....	"	12	Robt. A. Main.....	Woodward's C've	5	47 75
103998	Try Again.....	"	15	A. W. Ingersoll....	"	3	36 45
111555	Valkyrie.....	"	16	L. C. Watt.....	Flagg's Cove....	2	30 30
103125	Virgin Queen.....	"	16	Nelson Morse.....	White Head.....	4	44 60
103111	Volunteer.....	"	14	Turner Ingersoll....	Woodward's C've	1	21 15
77969	Wave Queen.....	"	11	Judson Foster.....	Grand Hbr.....	3	32 45
111560	W. C. Clark.....	"	16	Jno. Joy.....	Seal Cove.....	5	51 75
97149	Winnie.....	"	12	Joseph Holland.....	Seely's Cove....	3	33 45

GLOUCESTER COUNTY.

72099	Adelina.....	Chatham.....	12	Clement Lanteigne...	Lemeque.....	4	40 60
103009	Adeline Gladys....	"	12	P. D. Blanchard.....	Caraquet.....	4	40 60
103081	Albatross.....	"	13	Thos. Ahier.....	Shippigan.....	4	41 60
112156	Albert W.....	"	10	P. M. Chiasson.....	Caraquet.....	4	38 60
103279	Alice Maud.....	"	10	C. Robin Collas Co....	"	4	38 60
97194	Alika.....	"	12	Lange Paulin Sr.....	Lemeque.....	4	40 60
112162	Alma.....	"	12	Agapit Duguay.....	"	4	40 60
103763	Alouette.....	"	10	Wm. Fruing & Co.....	Caraquet.....	3	31 45
92419	Anna.....	"	12	Dosithe Chiasson.....	Lemeque.....	4	40 60
100960	Annie M.....	"	11	W. S. Loggie Co.....	Chatham.....	4	39 60
96739	Argeline.....	"	14	Octave Poulin.....	Caraquet.....	4	42 60
103085	Argentina.....	"	12	C. Robin Collas Co....	"	4	40 60
85694	Arrow.....	"	14	Joseph A. Doiron.....	"	4	42 60
100983	Bee.....	"	11	C. Robin Collas Co....	"	4	39 60
61431	Bee.....	"	11	Paul Noel.....	Lemeque.....	4	39 60
103072	Ben Hur.....	"	11	Jno. Leclerc.....	Caraquet.....	4	39 60
72079	Betsy.....	"	13	Wm. Fruing & Co.....	Shippigan.....	4	41 60
100075	Big Bear.....	"	10	Estate R. Young.....	Caraquet.....	3	31 45
116474	Blanchard.....	"	12	Michael John.....	"	4	40 60
100299	Blanchard.....	"	12	C. Robin Collas Co....	"	3	33 45
103549	Blenheim.....	"	13	"	"	4	41 60
103780	Britannia.....	"	13	Wm. Fruing & Co.....	Shippigan.....	4	41 60
100780	Britannic.....	"	12	W. S. Loggie Co.....	Chatham.....	4	40 60
100988	Cæsar.....	"	10	Philip Rive.....	Caraquet.....	4	38 60
100774	Calliope.....	"	12	"	"	4	40 60
103585	Cedric.....	"	14	"	"	4	42 60
103271	Celia.....	"	11	Dom. Gallien.....	"	2	25 30
100784	Charlotte.....	"	13	Estate R. Young.....	Caraquet.....	3	34 45
100789	Chazalie.....	"	11	"	"	3	32 45
96730	Christina.....	"	11	C. Robin Collas Co....	"	3	32 45
101009	Condor.....	"	10	Thos. Ahier.....	Shippigan.....	3	31 45
103083	Corsair.....	"	10	Wm. Fruing Co.....	"	3	31 45
111465	C. R. C.....	"	13	C. Robin Collas Co....	Caraquet.....	4	41 60
100916	Cygnets.....	"	12	"	"	4	40 60
100971	Cyprian.....	"	10	J. O. Le Bouthillier...	"	5	45 75
100913	Daffodil.....	"	10	Wm. Fruing Co.....	Shippigan.....	4	38 60
100915	Dawn.....	"	12	C. Robin Collas Co....	Caraquet.....	4	40 60
103076	Dipper.....	"	12	W. S. Loggie Co.....	Chatham.....	4	40 60
103948	Dora.....	"	12	C. Robin Collas Co....	Caraquet.....	3	33 45
112155	Dora.....	"	10	Seraphin Doiron.....	Miscou.....	4	38 60
100939	Dove.....	"	11	Thos. Ahier.....	Shippigan.....	4	39 60
100998	Eagle.....	"	10	"	"	4	38 60
103590	Eliza.....	"	13	C. Robin Collas Co....	Caraquet.....	4	41 60
96737	Elmina.....	"	11	Jacques Noel.....	Lemeque.....	4	39 60
100911	Emperor.....	"	10	Wm. Fruing Co.....	Shippigan.....	4	38 60
100786	Empress.....	"	12	Estate R. Young.....	Caraquet.....	3	33 45
103776	Esk.....	"	14	"	"	3	35 45

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List of Vessels which received Fishing Bounty, &c.—New Brunswick—*Con.*GLOUCESTER COUNTY—*Continued*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid. \$ cts.
100772	Estelle.....	Chatham.....	13	Philip Rive.....	Caraget.....	3	34 45
100787	Ethel.....	".....	11	Estate R. Young.....	".....	3	32 45
100905	Evangeline.....	".....	10	Peter A. Lanteigne.....	".....	3	31 45
103001	Falcon.....	".....	10	Thos. Ahier.....	Shippegan.....	4	38 60
103077	Fame.....	".....	10	Geo. D. Mallet.....	".....	4	38 60
100298	Fisher.....	".....	12	Elie Chiasson.....	Little Lemeque..	3	33 45
61445	Flavie.....	".....	13	Wm. Fruing & Co.....	Shippegan.....	4	41 60
111468	Fleetwing.....	".....	14	".....	".....	5	49 75
61405	Fly.....	".....	11	Alex. McLaughlin.....	Tracadie.....	3	32 45
112165	Flying Cloud.....	".....	13	Jno. F. Robichaud.....	Shippegan.....	5	48 75
112151	Flying Foam.....	".....	18	C. Robin Collas Co.....	Caraget.....	4	46 60
100782	Flying Foam.....	".....	12	Estate R. Young.....	".....	3	33 45
100912	Foam.....	".....	10	Jos. Z. Chiasson.....	".....	3	38 60
116479	Fortuna.....	".....	10	Prosper Boudreau.....	Mizonette.....	3	31 45
111467	Four Brothers.....	".....	13	Prosper S. Albert.....	Caraget.....	4	41 60
100778	Gambetta.....	".....	13	W. S. Loggie Co.....	Chatham.....	5	48 75
100954	Gazelle.....	".....	10	".....	".....	4	38 60
111464	Gazelle.....	".....	13	C. Robin Collas Co.....	Caraget.....	3	34 45
100968	Gem.....	".....	11	".....	".....	4	39 60
103766	Genesta.....	".....	12	Theotime Poirier.....	".....	4	40 60
103282	Gilknockie.....	".....	11	Estate R. Young.....	".....	2	25 30
111848	Gipsy.....	".....	15	Wm. Fruing & Co.....	Shippegan.....	4	43 60
103086	Gipsy.....	".....	20	W. S. Loggie Co.....	Chatham.....	5	55 75
100964	Gladstone.....	".....	10	Isaie Lanteigne.....	Caraget.....	3	31 45
100910	Gleaner.....	".....	13	Luke Lanteigne.....	".....	4	41 60
107775	Gold Seeker.....	".....	13	C. Robin Collas Co.....	".....	4	41 60
112157	Grasshopper.....	".....	16	Philip Rive.....	".....	5	51 75
92418	Grip.....	".....	12	Gustave Chenard.....	".....	4	40 60
100790	Guiding Star.....	".....	11	Estate R. Young.....	".....	4	39 60
111849	Happy Home.....	".....	16	H. Le Bouthillier, jr.....	".....	3	37 45
100956	Harold N.....	".....	12	Phileas F. Mallet.....	Shippegan.....	5	47 75
100994	Hercules.....	".....	10	P. M. Lanteigne.....	Caraget.....	3	31 45
107771	Heron.....	".....	13	Wm. Fruing & Co.....	Shippegan.....	4	41 60
103765	Hirondelle.....	".....	11	Agapit Leclerc.....	Caraget.....	4	39 60
61425	Hope.....	New Carlisle.....	13	J. N. Le Bouthillier.....	".....	4	41 60
100903	Hope.....	Chatham.....	12	Estate R. Young.....	".....	5	47 75
103939	Hope.....	".....	11	Chas. Rall.....	Lit. Shippegan..	4	39 60
100966	Hotspur.....	".....	10	Philip Rive.....	Caraget.....	4	38 60
103931	Irene.....	".....	12	Wm. Fruing & Co.....	Shippegan.....	3	33 45
96725	Isabel.....	".....	11	Arsene Hebert.....	Caraget.....	4	39 60
103289	Jersey Lily.....	".....	12	Wm. Fruing & Co.....	Shippegan.....	3	33 45
100958	John B.....	".....	11	W. S. Loggie Co.....	Chatham.....	4	39 60
100969	John Bull.....	".....	10	Henry Albert.....	Caraget.....	4	38 60
100965	Josephine.....	".....	11	Philip Rive.....	".....	4	39 60
112169	Kathleen.....	".....	15	Wm. Fruing & Co.....	Shippegan.....	4	43 60
111466	King Edward.....	".....	14	C. Robin Collas Co.....	Caraget.....	5	49 75
103949	King Fisher.....	".....	13	Wm. Fruing & Co.....	Shippegan.....	4	41 60
103288	Kite.....	".....	10	Thos. Ahier.....	".....	4	38 60
107774	Klondyke.....	".....	14	C. Robin Collas Co.....	Caraget.....	4	42 60
103283	Koh-i-noor.....	".....	13	Philip Rive.....	".....	3	34 45
111461	Ladysmith.....	".....	17	Hyp. Chiasson.....	Little Lemeque..	4	45 60
103903	Lark.....	".....	10	Wm. Fruing & Co.....	Shippegan.....	4	38 60
107773	L'Etoile.....	".....	15	Prudent Gallien.....	Caraget.....	4	43 60
112152	Lillian.....	".....	15	C. Robin Collas Co.....	".....	3	36 45
100972	Lizzie D.....	".....	11	Estate R. Young.....	".....	4	39 60
100902	Lord Stanley.....	".....	10	Wm. Fruing & Co.....	Shippegan.....	4	38 60
112154	Mac.....	".....	11	Jno. McWard.....	Miscou.....	4	39 60
116480	Maggie.....	".....	10	James Nixon.....	Caraget.....	3	31 45
100955	Majestic.....	".....	10	W. S. Loggie Co.....	Chatham.....	4	38 60
112158	Maple Leaf.....	".....	13	Wm. Fruing & Co.....	Shippegan.....	4	41 60
72100	Marie.....	".....	11	Eugene Gauvin.....	Lemeque.....	4	39 60
107779	Marie.....	".....	15	Gaspard Savoie.....	Shippegan.....	4	43 60
103278	Marie Celia.....	".....	13	J. N. LeBouthillier...	Caraget.....	4	41 60

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LIST of Vessels which received Fishing Bounty, &c.—New Brunswick—*Con.*GLOUCESTER COUNTY—*Continued.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							8 cts.
109290	Marie Joseph.	Chatham.	12	Lazare Gauvin.	Little Leu-eque.	5	47 75
112163	Margaret Ann.	"	13	John Jones.	"	4	41 60
116471	Marie Louise.	"	10	Gustave Chiasson.	Caraget.	3	31 45
100295	Marie Louise.	"	18	Joseph A. Paulin.	"	4	46 60
111947	Mary.	"	14	David Albert.	"	4	42 60
103084	Mary Emma.	"	11	Wm. Fruing & Co.	Shippegan.	4	39 60
92413	Mary Jane.	"	14	Phileas C. Doiron.	Caraget.	4	42 60
100781	Mary Louise.	"	11	W. S. Loggie Co.	Chatham.	4	39 60
116478	Mary O.	"	11	Jos. O. Cormier.	Mizzonette.	3	32 45
100957	Mary R.	"	12	W. S. Loggie Co.	Chatham.	4	40 60
116475	Mary Rose.	"	17	Maxime Cormier.	Caraget.	4	45 60
112161	Mary Star.	"	15	H. LeBouthillier, sr.	"	5	50 75
112150	Mary Star of the Sea.	"	15	Luke Friolet.	"	4	43 60
111844	Mary Star of the Sea.	"	14	J. N. LeBouthillier.	"	5	49 75
103088	Max.	"	10	Maxime Cormier.	"	4	38 60
103768	Mayflower.	"	13	C. Robin Collas Co.	"	3	34 45
111462	Mayflower.	"	10	H. Kent.	Miscou Hbr.	4	38 60
107777	May Flower.	"	11	Octave Benoit.	Lemeque.	4	39 60
100779	Mermaid.	"	11	W. S. Loggie Co.	Chatham.	4	39 60
112164	Merry Christmas.	"	13	Celestin Jean.	Lemeque.	5	48 75
100390	Mikado.	"	13	C. Robin Collas Co.	Caraget.	4	41 60
88669	Morning Star.	"	12	Gustave Gionet.	St. Rose.	3	33 45
103004	Oriole.	"	11	Thos. Ahier.	Shippegan.	4	39 60
103005	Osprey.	"	10	"	"	3	31 45
100297	Palma.	"	14	Amédée Aché.	Lemeque.	5	49 75
100776	Patrick.	"	11	Philip Rive.	Caraget.	3	32 45
103778	Pelican.	"	13	Wm. Fruing & Co.	Shippegan.	4	41 60
103764	Petrel.	"	12	"	"	4	40 60
96740	Providence.	"	13	J. N. LeBouthillier.	Caraget.	4	41 60
72076	Providence.	"	12	Thos. Ahier.	Shippegan.	5	47 75
96732	Providence.	"	11	Wm. Fruing & Co.	"	4	39 60
106904	P. T. S.	"	11	J. N. LeBouthillier.	Caraget.	4	39 60
103287	Raven.	"	11	Edward Leclerc.	Shippegan.	4	39 60
100775	Redgauntlet.	"	11	Philip Rive.	Caraget.	3	32 45
100952	Replevin.	"	10	C. Robin Collas Co.	"	3	31 45
103078	Reward.	"	13	Jas. DeGrace.	Shippegan.	4	41 60
97191	Rita.	"	12	C. Robin Collas Co.	Caraget.	4	40 60
103946	Robin.	"	12	"	"	4	40 60
103587	Romulus.	"	18	W. S. Loggie Co.	Chatham.	4	46 60
92404	Rosa.	"	17	Fabien Aché.	Lemeque.	4	45 60
100908	Rosalie.	"	10	E. O. LeBouthillier.	Caraget.	3	31 45
100773	Rupert.	"	12	Philip Rive.	"	3	33 45
74401	Sara.	"	11	Jos. P. Noël.	Lemeque.	5	46 75
100907	Sarah.	"	10	Estate R. Young.	Caraget.	3	31 45
92408	Sarah A. W.	"	15	Fidèle Roussel.	Shippegan.	5	50 75
103010	Sarah B.	"	10	J. N. E. Lanteigne.	Caraget.	3	31 45
103584	Saxon.	"	13	Philip Rive.	"	3	34 45
100959	Sea Bird.	"	10	W. S. Loggie Co.	Chatham.	4	38 60
100914	Sea Flower.	"	11	C. Robin Collas Co.	Caraget.	3	32 45
96926	Sea Foam.	"	15	Michel Lanteigne.	"	4	43 60
96731	Sea Star.	"	13	Jos. M. Savoy.	Shippegan.	4	41 60
100961	Silver Moon.	"	14	W. S. Loggie Co.	Chatham.	4	42 60
100788	Sir Charles.	"	11	Estate R. Young.	Caraget.	3	32 45
116473	St. Anne.	"	14	Onesime Chiasson.	Lemeque.	4	42 60
111469	St. John.	"	13	Jean A. Aché.	"	4	41 60
112167	St. Joseph.	"	10	Raphael Gionet.	Caraget.	4	38 60
103008	St. Joseph.	"	12	Adolphe Aché.	Lemeque.	4	40 60
107776	St. Peter.	"	12	"	"	4	40 60
100993	Stanley.	"	10	Philip Rive.	Caraget.	4	38 60
103077	Stanley.	"	10	Francis Bodin.	Miscou Hbr.	4	38 60
103767	Stella Maris.	"	19	J. N. Le Bouthillier.	Caraget.	4	47 60
111845	Superior.	"	14	"	"	4	42 60

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List of Vessels which received Fishing Bounty, &c.—New Brunswick—*Concluded.*GLOUCESTER COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Register.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							\$ cts.
103772	Surprise.....	Chatham.....	10	Thos. Blanchard.....	Mizzonette.....	3	31 45
103006	Swallow.....	".....	11	Thos. Ahier.....	Shippegan.....	3	32 45
103762	Swan.....	".....	14	".....	".....	4	42 60
103947	Swallow.....	".....	13	C. Robin Collas Co.....	Caraquet.....	3	34 45
100986	Swift.....	".....	11	Fabien Chiasson.....	Lit. Shippegan..	5	46 75
103761	Swing.....	".....	11	Jeremie Leger.....	Caraquet.....	3	32 45
100777	Teutonic.....	".....	11	W. S. Loggie Co.....	Chatham.....	4	39 60
96738	Three Brothers.....	".....	12	Jno. S. Albert.....	Caraquet.....	4	40 60
103082	Thrush.....	".....	10	Wm. D. Mallet.....	Shippegan.....	4	38 60
100918	Tickler.....	".....	12	C. Robin Collas Co.....	Caraquet.....	3	33 45
103583	Two Brothers.....	".....	11	W. S. Loggie Co.....	Chatham.....	3	32 45
112159	United Empire.....	".....	17	Estate R. Young.....	Caraquet.....	5	52 75
103285	Valkyrie.....	".....	12	Philip Rive.....	".....	4	40 60
100775	Victoria.....	".....	16	W. S. Loggie Co.....	Chatham.....	4	44 60
100995	Voltaire.....	".....	10	Philip Rive.....	Caraquet.....	3	31 45
100966	Von Moltke.....	".....	11	Peter J. Frigot.....	".....	4	39 60
103588	Vulture.....	".....	13	W. S. Loggie Co.....	Chatham.....	5	48 75
96735	White Fish.....	".....	12	Jos. L. Savoy.....	Lemeque.....	4	40 60
100953	White Wings.....	".....	10	Estate R. Young.....	Caraquet.....	4	38 60
100973	Worlds Fair.....	".....	11	".....	".....	4	39 60
103079	Wren.....	".....	11	Thos. Ahier.....	Shippegan.....	3	32 45
100920	Zephyr.....	".....	12	C. Robin Collas Co.....	Caraquet.....	3	33 45

NORTHUMBERLAND COUNTY.

96725	Bessie T.....	Chatham.....	10	Donald Loggie.....	Church Point...	3	31 45
51528	Lilian.....	Guysborough...	41	John White.....	Neguac.....	5	76 75
92420	Mary Louise.....	Chatham.....	13	Donald Loggie.....	Church Point...	3	34 45

RESTIGOUCHE COUNTY.

94959	Winnie G. S.....	Lunenburg.....	26	Donald McGregor.....	Dalhousie.....	4	54 60
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ST. JOHN COUNTY.

112287	Alda.....	Digby.....	11	Mark Shannon.....	St. John.....	1	18 15
90660	Alice May.....	Yarmouth.....	18	Patrick Murray.....	Dipper Hbr.....	2	32 30
59373	E. M. Oliver.....	St. Andrews.....	14	Charles Harkins.....	St. John.....	3	35 45
75757	Etta.....	Yarmouth.....	17	Jas. McAfee.....	Lorneville.....	5	52 75
80831	Glide.....	Lunenburg.....	16	Geo. H. Hampton.....	St. John.....	3	37 45
100156	Hustler.....	St. John.....	44	Addison Thompson.....	Dipper Hbr.....	8	101 20
77783	Lost Heir.....	".....	15	Richard Maguire.....	St. John.....	2	29 30

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LIST of Vessels which received Fishing Bounty, &c.—*Con.*

PROVINCE OF PRINCE EDWARD ISLAND.

KING'S COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner. or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							\$ cts.
100445	Carrie O.	Canso.	12	Edward Colbert.	Cape Bear.	3	33 45
116294	Charlotte S.	Charlottetown.	14	Reuben W. Penny.	Murray Hbr. Sth	2	28 30
75904	Empress.	"	26	John Gosbee.	Murray River.	5	61 75
107759	Hustler.	"	13	Hugh Jackson.	Beach Point.	5	48 75
75566	Julia A.	"	15	Gabriel Billard.	"	4	43 60
100696	Marion Emerson.	Pictou.	30	Reuben Cohoon.	Murray Hbr. Sth	5	65 75
90296	Minnie Mack.	Charlottetown.	15	Francis Poole.	Souris.	3	36 45
107985	Muriel.	Shelburne.	25	Silas Sencabaugh.	Murray Hbr. Sth	6	67 90
85652	Our Hope.	Charlottetown.	36	Edward Dicks.	Georgetown.	5	71 75
116296	Outlook.	"	21	J. W. Shenell.	Souris.	4	49 60
64869	Sarah L. Oxner.	Halifax.	34	E. D. Delorie.	Georgetown.	3	55 45
107770	Success.	Charlottetown.	15	Robt. McKenzie.	St. Peters Bay.	4	43 60
116292	Wilena Fraser.	"	13	John McKenzie.	Murray Hbr. Sth	4	41 60
103865	William R.	Halifax.	43	Henry Dicks.	Georgetown.	5	78 75

PRINCE COUNTY.

107758	Daisy.	Charlottetown.	13	Daniel Fraser.	Alberton.	4	41 60
90855	Delta.	"	25	James Richards.	"	3	46 45
103771	J. Anny.	Chatham.	12	Leon Perry.	St. Louis.	6	54 90
111850	Johnny M.	"	12	John T. Murphy.	Campbellton.	5	47 75
92473	Lucy Louise.	Charlottetown.	19	James Roach.	Malpeque.	6	61 90
116474	Mary Beatrice.	Chatham.	10	Julien Branson.	Miminegash.	2	24 30
103592	Rosamond.	Charlottetown.	18	David O. Champion.	Baltic.	4	46 60
94992	Sarah P. Ayer.	"	64	John Champion.	Alberton.	8	121 20
103193	Startle.	Halifax.	11	Alfred Jennie.	"	3	32 45
107760	Western Prince.	Charlottetown.	10	Wallace Richards.	"	3	31 45

QUEEN'S COUNTY.

107763	Guinea.	Charlottetown.	10	Boyce Harding.	French River.	4	38 60
100580	Maggie E. C.	Lunenburg.	20	Wm. C. Orr et al.	New London.	3	41 45
100474	R. Beatrice.	Charlottetown.	19	Jonathan Delaney.	French River.	5	54 75
96727	Ryse.	Chatham.	11	Daniel Dunning.	"	2	25 30
92745	Surprise.	Charlottetown.	18	John Pidgeon.	"	5	53 75
88518	W. F. Elizabeth.	Sydney.	10	Eugene Pineau.	North Rustico.	5	45 75

PROVINCE OF QUEBEC.

GASPE COUNTY.

94963	Golden Seal.	Halifax.	32	Ernest Cormier.	Amherst.	7	82 05
103318	Little Heir.	Pt. Hawkesbury.	19	Elpide Painchaud.	"	4	47 60
88464	Mary E.	Arichat.	10	Nectaire Boudreau.	"	3	31 45
85400	Minnie M.	Amherst M.I.	13	Honoré Cormier.	"	4	41 60
85399	Minnie May.	"	10	Wm. Boudreau.	"	4	38 60
74160	Seabird.	Charlottetown.	20	Jno. Miousse.	House Hbr.	5	55 75
111430	Shamrock.	Halifax.	23	Alfred Vigneau.	Amherst.	5	58 75
107188	Stella.	Charlottetown.	15	Alibee Lafrance.	Point Basse.	4	43 60
94675	Success.	Halifax.	16	R. J. Leslie & Co.	Amherst.	4	44 60

SAGUENAY COUNTY.

92579	Cambridge.	Halifax.	42	John Stubbart, Sr.	Romaine.	7	92 05
103351	Florida.	Quebec.	27	Napoleon Blais.	Esquimaux Pt.	5	62 75
85750	H. B.	"	57	Edouard Boudreau.	"	8	114 20
75445	Phoenix.	Gaspe.	28	Ulric Gagné.	Caribou Island.	2	42 30
75680	Sea Star.	Quebec.	52	Louis S. Cormier.	Esquimaux Pt.	8	109 20
66727	Willow.	Halifax.	18	Chas. Gagné, Sr.	Grand Metis.	3	39 45

APPENDIX No. 3.

NOVA SCOTIA.

District No. 1—Comprising the four counties of the Island of Cape Breton.

Inspector A. C. Bertram, North Sydney, C.B.

District No. 2—Comprising the counties of Cumberland, Colchester, Pictou, Antigonish, Guysborough, Halifax and Hants.

Inspector Robert Hockin, Pictou.

District No. 3—Comprising the counties of King's, Annapolis, Digby, Yarmouth, Shelburne, Queen's and Lunenburg.

Inspector L. S. Ford, Milton.

DISTRICT No. 1.

ANNUAL REPORT ON THE FISHERIES OF CAPE BRETON ISLAND.

NORTH SYDNEY, February 2, 1905.

To the Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour to submit the statistical report of the fisheries for the Island of Cape Breton for the year 1905, covering the four counties, Cape Breton, Inverness, Victoria and Richmond.

The seasons operations show an increase in total value over the previous year of \$48,310. This surplus was made up by the increased yield in the counties of Cape Breton, Inverness and Victoria, the statistics of the county of Richmond giving a decreased yield in total value.

The improved local market in the towns and mining districts in the county of Cape Breton, particularly for fresh fish, and the direct transportation to the Sydneys by steam communication from Northern Victoria, has stimulated the prosecution of the fisheries to supply this local demand. Transportation has a great deal to do with the success of the fishery industry as is shown in the case of Victoria over Richmond county, from which county the transportation to the local markets is not good. Then again the steamboat transportation from the western coast of Newfoundland by which large quantities of fresh fish are brought three times per week to the Sydneys, gives the fishermen on the western coast of the colony the advantage of our splendid local market for fresh fish, thus showing what improved transportation means to a fishery district.

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There were six schooners less than in the previous year engaged in the fisheries, but thirteen more men were engaged in schooner fishing. There were, however, forty-six more boats employed last year. The statistics also show that there was a decrease of four lobster canneries in operation, but more persons were engaged than in the previous year. The canneries largely employ young women, many of whom return home from the United States to spend the summer and become employed in the canneries at good wages during the canning season.

The total value of fishing gear employed during the year was \$498,268, an increase over the previous year of \$30,595.

The returns for the whole district show an increase in salmon (fresh,) herring, lobsters, cod, haddock, hake, pollock, halibut, oysters and squid, the latter being entirely used for bait, and is the best bait used. The increased yield in Cape Breton county is made up in the commercial article by salmon, herring (pickled,) mackerel (fresh,) lobsters (canned,) cod (dried,) haddock, hake, pollock and halibut. The decrease in the same county is in herring (pickled,) salmon (fresh,) mackerel (pickled,) lobsters (in shell,) haddock (fresh,) shad, alewives and smelts.

In Inverness county the statistics give an increased value made up of salmon (fresh,) mackerel, cod, lobsters (in shell,) haddock (fresh,) pollock, halibut and oysters. The decrease is in salmon (cured,) herring, mackerel (pickled,) haddock, hake, trout, smelts and alewives.

In Victoria county, the largest increase is made up of herring (fresh,) mackerel, lobsters (canned,) cod, haddock, pollock, halibut, trout and squid. The decrease in this county is in salmon (pickled,) mackerel and lobsters (in shell.)

There are two agencies which seriously militate against the successful prosecution of the fisheries, namely: scarcity of bait and the dog-fish pest. The greatest menace is the latter and the unfortunate part of the question is, that dog-fish are increasing in numbers every year to such an extent that the waters are literally alive with the pest between the beginning of July and end of November. The quantity of food fish consumed and the destruction to gear are not the only drawback to the successful prosecution of the industry, but also to the fact that they frighten all kinds of school fish away. Before the arrival of dog-fish in July, cod are found invariably plentiful on the banks which surround our coast. In July, when dog-fish beg into make their appearance, the baited hook catches the dog-fish instead of cod, haddock or pollock. Then again dog-fish have completely ruined the mid-summer run of herring which was in former years such a source of profit to Cape Breton people, as those fish entered largely into an article of home consumption among all classes, as well as realizing handsome returns for their export to markets abroad.

A few lobster canners have put up a few cases of dog-fish as an experiment, but the opinion prevails that the canned article will never become an article of consumption in this country so long as it bears the name of dog-fish. The canned article put up properly is certainly a palatable article of food, but the prejudice to a dog-fish diet will always militate against it as an article of food, in the home market at least. Labelled White Halibut, or some such name, it would, I believe, give the canned article a home market and an extensive one in certain foreign countries.

As a fertilizer, I am told by some farmers who have used them there is no fish equal to dog-fish for the growing of crops, and they should be used in this connection very extensively.

They are not made into a compost but placed in the ploughed furrows when taken out of the water. One fisherman should have no difficulty in catching a half ton per day, which should be worth to a farmer \$2.75, per ton at least.

One extensive fish dealer as an experiment has cured a number of dog-fish much in the same way cod and haddock are cured. What the result of the experiment will be is not yet known.

Something should be done to rid the waters of this great menace to the prosecution of the fishery industry. Either the establishment by the government of reducing factories or liberal bonuses to private persons to undertake the work, or encouragement and instruction to canners and farmers to engage in the dog-fish industry. While dog-fish

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are as great a menace to the prosecution of the fisheries in the United States as in Canada, nothing has been done on the other side of the border to exterminate them. The government appropriation for a reducing factory at Canso is in advance of any undertaking by either state or federal governments across the border.

The bait question is also an important one to the fishing industry. It seems that the fishermen themselves are largely to blame for enforced idleness many weeks during the year on account of scarcity of bait. The government, through the Department of Fisheries, gives assistance to fishing communities to establish bait freezers, but the fishermen have not taken the advantage of the assistance that might be expected. At times there is abundance of bait in nearly every fishing district in the maritime provinces. This bait could be placed in freezers, if there were such institutions. It is true there are a few bait freezers in Cape Breton island, but only a very small percentage compared with what there should be considering the importance to the industry of the bait supply, and the encouragement given by the government for the establishment. Were it not for the fish taken in gill nets, seines and traps, the value of our fishery industry would be materially decreased in late years, as there is no doubt that squid and caplin bait are not as abundant as in former years.

The fish catch which appears in our annual statistics every year is only a comparatively small portion of what is annually taken out of our coastal waters. Provincial vessels and others from foreign countries come to our shores and fish, load up and depart to their respective home ports three or four times in a season. With the greater advantages our local fishermen do not prosecute the fisheries with the same vigour as foreign fishermen. This is quite clear to every inhabitant of the maritime provinces. I think, therefore, the department is doing the correct thing in inducing the industrious fishermen of Scotland to come to Canada. No doubt their methods and industry are in advance of ours, but one district should not receive all the departmental favour in this respect. These advanced fishermen from abroad should be located, if possible, in other leading fishing districts. Their presence, methods and industry would, beyond doubt, be greatly in the interest of the native fishermen.

Weather conditions have been favourable for the prosecution of the fisheries during the season on the outside coast. The dry season effected the rivers and estuaries, and as a result river fishing was poor, much to the discouragement of anglers, both home and from abroad.

The close season was well observed in the majority of the districts.

The overseers synopses follow :

SYNOPSIS OF REPORTS OF FISHERY OVERSEERS FOR THE ISLAND OF CAPE BRETON, 1904.

RICHMOND COUNTY.

Overseer Archibald Morrison, of Cannes, reports a large falling off in the aggregate catch of fish as compared with the previous year. The herring and smelt catch was considerably larger than in 1903, but the catch of cod and lobsters was much smaller, while the mackerel fishery was, comparatively speaking, a failure : consequently, notwithstanding the high price paid for fish during the season just closed, a large decrease is shown in the total value of fish taken. The chief causes which militated against the success of the fisheries in his district, were the complete absence of mackerel from the coast last Spring, the great scarcity of codfish in the usual grounds or small banks during the whole season, and the late date on which lobster fishing began, owing to the prevalence of drift ice on the coast until nearly the first of May. The fish products were all disposed of at different points in Canada, the larger portion finding a market in Halifax, while the fresh cod and halibut found ready sale in Glace Bay and the Sydneys. The quantity of fish used for home consumption was about 2 per cent. Close seasons were well observed.

Overseer D. R. Boyle, of West Arichat, reports a fairly successful season in his district. There was a satisfactory increase in the number of vessels, boats, and other

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gear employed in the fisheries, and a still more satisfactory increase in some of the more important branches of the industry, such as herring, fresh mackerel, preserved lobsters, haddock, lake, halibut, smelts, eels, flounders and squid. The decreases are in salt mackerel, fresh salmon, fresh lobsters, cod, alewives and bait. The prices realized for fish have been the best for years. The Winter fishery has largely increased, especially at Petit de Grat, notwithstanding unfavourable weather, &c., and the fishermen there are making ready for a more vigorous prosecution next year by increasing the number of fishing craft available for such fishery. The cod decrease is more apparent than real, as 194,000 pounds of fresh cod have been exported, and there being no column on the statistical forms for this fish, it is included in the coarse and mixed fish for that district. It will thus be seen that the large amount of fresh cod exported will more than make up for the shortage in the dry article. There has been a gratifying increase in the smoked and canned finnan haddie business this season. About 10 per cent of the total catch of fish in his district was reserved for home consumption, the balance being shipped to Halifax, Prince Edward Island, Boston, and other foreign ports. Close seasons were well observed, no violations having come under his notice.

Overseer Arthur Brymer, of Lower L'Ardoise, reports a fairly prosperous season. All kinds of fish, compared with last year, show an average catch. Less men were employed in the prosecution of the fisheries than last year, owing to the fact that they had procured employment elsewhere. All the fish caught, with the exception of about 2 per cent, which was used for home consumption, were shipped to Halifax. No violations of the fishery regulations occurred. All fish-ways are in good condition. Better prices ranged for fish products than in previous years.

CAPE BRETON COUNTY.

Overseer John McLean, of Gabarus lake, reports lobsters plentiful in his district in both the fresh and preserved article, a slight decrease in cod, owing to stormy weather, and a decrease in mackerel. He finds an increase in herring, which struck in the bay in large quantities, but dog-fish did great damage to nets, &c. All the fish taken in his district with the exception of a very small portion for home consumption, were sent to Halifax and sold among the mining districts. No abuses exist and close seasons were well observed.

Overseer A. R. Forbes, of North Sydney, reports not a single violation of the fishery regulations in his district. Not as many men were employed in the prosecution of the industry as last year, but those who followed their calling in this respect, were on the average successful, the catch of all kinds of fish being good.

Overseer Murdo. McKean, of Jacksonville, reports a good season, although the number of men engaged in the industry was less than in 1903, the returns show an average catch. No violations of the law occurred.

VICTORIA COUNTY.

Overseer Chas. McCrae, of Middle River West, reports an increase in the quantity of fish taken over the year 1903. This increase is confined to herring, cod and eels, and is due to a more vigorous prosecution of the industry. The other branches are about the same as in the previous year. About 5 per cent of the total catch was used for home consumption, the remainder being sold in the local markets. No abuses exist and the close seasons were well observed.

Overseer Duncan Gillis, of Baddeck, reports an increase in the value of the fish taken in his district which he attributes more to higher prices being obtained for the product than to an increase in the total catch. He reports a decrease in salmon, pickled herring, mackerel, and pollock, and a marked increase in fresh herring, cod and smelts. Salmon were very scarce and the falling off in salt herring was due to a better price being paid for the fresh article. About 55 per cent of the total catch was sold in the local market; the balance being used for home consumption. There are no fish-ways in his district, and no violations of the regulations came to his notice.

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Overseer Alexander Morrison, of Wreck Cove, reports an average catch of salmon and herring, an increase in lobster, and a decrease in mackerel, cod and haddock. The catch of cod and herring was used principally for home consumption. The mackerel and lobster catch was shipped to Halifax, and the salmon to the Sydneys and other Cape Breton towns. The close seasons were well observed. There are five fish-ways in his district, all in good condition.

Overseer W. R. Moffatt, of Dingwall, reports a great falling off in the mackerel fishery, which he attributes to the presence of dog-fish on the coast from July to October. Considerable loss was also sustained by the cod fishermen, owing to this pest. Although cod were fairly plentiful, the fishermen's nets were often destroyed by dog-fish. However, the catch of cod shows a satisfactory increase over the year 1903. The lobster catch was also much larger, than in the previous year. About 10 per cent of the total yield was used for home consumption; 40 per cent was exported to Brazil, and the balance sold in the Canadian markets. Close seasons well observed, no violations having occurred.

INVERNESS COUNTY.

Overseer William Aucoin, of Eastern Harbour, reports a fair catch of lobsters, although the cold spring and presence of drift ice on the coast somewhat retarded the progress of this industry. There was a decrease in cod, owing to the presence of dog-fish on the coast for nearly four months of the fishing season. This decrease is also attributable to less vigorous prosecution of the industry; the men who were formerly in the fisheries leaving it for more remunerative employment. The cod taken, however, was of a very superior quality, and if better prices prevailed, a larger number would doubtless engage in the industry. The mackerel fishery was also much injured by dog-fish and only a fair catch was taken. The fishery has been practically spoiled by these fish, and hand line fishing has been made almost impossible. The salmon fishery has been quite up to the mark, and not a single violation occurred. Poachers are now extinct, and the pools remain undisturbed during the whole of the spawning season. 4,000 pounds of salmon were placed in the refrigerator at Eastern Harbour. This refrigerator was of considerable help to lobster fishermen in the early Spring by providing them with herring bait. All fish-ways are in good repair.

Overseer Peter Gillis, of S. W. Port Hood, reports a good catch of lobsters. Cod were plentiful but bait scarce, and dog-fish did much damage to nets and trawls. The total catch was used in Inverness county. There are no fish-ways in his district, and none required.

I have the honour to be, sir,

Your obedient servant,

A. C. BERTRAM.

Inspector of Fisheries.

DISTRICT No 2.

ANNUAL REPORT OF THE FISHERIES OF DISTRICT No. 2, NOVA SCOTIA,
COMPRISING THE COUNTIES OF ANTIGONISH, COLCHESTER, CUM-
BERLAND, GUYSBOROUGH, HALIFAX, HANTS AND PICTOU.

PICTOU, January 31, 1905.

To the Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour to submit my annual report of the fisheries of District No. 2, Nova Scotia, together with tabulated returns showing the increase or decrease of each kind of fish.

The estimated value of all the fish taken in the district during the past season is \$1,758,282, which is 34 per cent less than the estimated value of the catch for the preceding year.

Last year however the catch had been very large, being 55 per cent greater than that for 1902; compared with the value of catch with each of the past 15 years it is above the average by about eight per cent.

Of the anadromous fishes the report shows a decrease of about 23 per cent in the catch of salmon, an increase of about fifty per cent in the catch of smelts a decrease of seventy per cent in that shad, and of gaspereaux, a decrease of twenty-three per cent.

Of the deep sea fishes :

Cod fish, there is a decrease of about.....	12 per cent.	•
Haddock, a decrease of less than.....	5	"
Hake, an increase of.....	30	"
Pollock, a decrease of.....	50	"
Halibut, a decrease of.....	45	"

Comparing the catch of the whole cod family, including cod, haddock, hake, and pollock, with that of last year, there is a decrease of about eighteen per cent.

SALMON.

The reported catch is 23 per cent less than last year, but compared with that of the past sixteen years it is an average one.

On the Atlantic coast there was a decrease of eighteen per cent, and on the Bay of Fundy a decrease of forty five per cent. On the Straits of Northumberland there was an increase of seventeen per cent.

The rivers during the spawning time of this fish were in a favourable condition for the ascent of fish to their spawning grounds as was the case last year. So that there should be in the years 1908 and 1909 fair catches of salmon taken.

SHAD.

The reported catch is the smallest since the year 1889, and of the 648 barrels taken 400 were caught in the Stewiacke and Shubenacadie rivers when they are ascending to their spawning places.

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The largest catch during the past 15 years, was somewhat over 3,000 barrels. So that if by any means the supply could be maintained to yield as largely as that year there would be an annual income to the fishermen of the counties of Colchester, Cumberland and Hants of \$23,000 more than received for this season's catch.

It looks as if the time had come when a close season during the months of May and June for the Shubenacadie and Stewiacke rivers is necessary.

This could be tried for three or four years, and if the results were satisfactory it could be extended.

Such a season would, however, involve some considerable outlay to enforce it, and if a patrol boat, such as is used for the protection of the lobster fishery, could be kept on these rivers during these two months it would be the most effective means of enforcing the law.

In order to keep the condition of this fishery in view, I have annually given a statement of the catch since 1899, and I continue this below:—

1889	Barrels of shad taken	535
1890	" "	756
1891	" "	1,178
1892	" "	1,811
1893	" "	1,346
1894	" "	981
1895	" "	1,208
1896	" "	1,090
1897	" "	1,382
1898	" "	2,777
1899	" "	3,208
1900	" "	1,375
1901	" "	749
1902	" "	948
1903	" "	2,115
1904	" "	644

ALEWIVES OR GASPÉREAU.

The reported catch is the smallest during the past 15 years and is twenty per cent less than last year.

HERRING.

There was a considerable increase in the catch of these fish over that of last year, being about twenty per cent greater, but compared with the catch since 1889 there has been less than average yield.

MACKEREL.

The catch was very much less than that of last year which was nearly double of the average catch. This season the quantity taken was only about one third of last year's catch, and is less than an average for fifteen years by twenty per cent.

LOBSTERS.

The catch over the district was equal to that of last year, and with the larger catch reported from West Halifax, fresh in shell shows an increase of about two per cent.

There were canned on the Atlantic coast about one and a half per cent more than last year, while on the straits of Northumberland there was a decrease of three per cent.

There were some indications of violation of the close season for lobsters last year.

Some parties were convicted and fined and information has been received which it is expected will secure convictions in several other cases.

Owing to the unwillingness of fishermen to assist either personally or by hiring their boats to confiscate gear set for lobsters unlawfully, I am of opinion that it will be necessary to have the patrol boats on the coast during the close season.

I have the honour to be, sir,

Your obedient servant,

R. HOCKIN,
Inspector of Fisheries.

DISTRICT No. 3.

ANNUAL REPORT ON THE FISHERIES OF DISTRICT No. 3, COMPRISING
THE COUNTIES OF LUNENBURG, QUEEN'S, SHELBURNE, YARMOUTH, DIGBY, ANNAPOLIS AND KING'S.

MILTON, QUEEN'S Co., N.S., January 12, 1905.

To the Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour to submit my report upon the fisheries of my district for the year 1904, together with the different statements of the catch of fish in the seven counties comprised in said district.

As anticipated in my preliminary report, the total value of the fisheries in this district for the season of 1904 shows favourably, being reckoned at \$4,364,017, that is, over one hundred thousand dollars in excess of the previous yield.

The fact that this amount is more than half the total product of the whole province of Nova Scotia, demonstrates the importance of the division under my charge.

As will be noticed by the following statement showing the increase or decrease of the catch of the different counties, the total product of four of them hovers near the million dollars.

Counties.	1904.	1903.	Increase.	Decrease.
Digby.. : . . .	\$1,242,407	\$1,130,339	\$112,068	
Lunenburg. . . .	984,745	945,711	39,034	
Shelburne.	941,173	992,356		51,183
Yarmouth.	871,179	806,660	64,519	
Queen's.	136,824	109,662	27,162	
King's.	94,414	150,809		56,395
Annapolis.	93,274	112,458		19,184

The statements will show that over 13,000 persons find employment in the fishing industry of my district, including the persons engaged in the lobster preserving branch of the industry.

The total value of fishing nets and gear of all kinds, comprising the lobster plant &c., aggregates a capital of \$2,300,000 invested in the fishing business.

The Lunenburg county fishing fleet (" the Gloucester of Canada ") alone comprises 160 staunch schooners valued at nearly three millions dollars.

It is manned by nearly three thousand men who seek the deep-sea banks for a livelihood

COD.

These and other bankers must have fared well, as the total value of cod exceeds that of the previous yield by \$62,800 being \$1,752,990.

Haddock also yielded over \$300,000.

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LOBSTERS.

The lobster industry shows no sign of depletion, notwithstanding the heavy drain of recent years upon our supply, not only more *cans* of crustacean were packed than in 1903 but more were shipped *alive* to American ports.

The lobster industry of my district for the last season is valued at \$1,250,724, being a surplus of \$54,798 over the previous out-put. Lobsters were of a good size and brought remunerative prices, far in excess of the rates computed by the department.

Herring and mackerel show a considerable falling off, owing no doubt, to the dog-fish, and other temporary causes.

The value of herring is \$60,000 short of 1903, and yield of mackerel is also about \$25,000 less.

SALMON.

The slight improvement noticed in the catch of salmon indicates that the river fisheries are improving, and more effective regulations would tend to give the improvement a permanent nature.

Taking the whole season into consideration, and the fluctuations from one season to another in the different kinds of fish, the fishermen did fairly well and the majority of them are satisfied with the catch of 1904.

I have the honour to be, sir,
Your obedient servant,

L. S. FORD,
Inspector of Fisheries.

DISTRICT No. 1.

ISLAND OF CAPE BRETON.

RETURN Showing the number and Value of Vessels, Boats, Nets, &c., also the Kinds of Fish Caught in the County of Richmond, Province of Nova Scotia for the year 1904.

Number.	Fishing District.	Fishing Vessels and Boats.					Fishing Gear and Materials.					Kinds of Fish.										
		Vessels.		Boats.		Men.	Number.	Value.	Gill Nets.		Trawls.	Lobster Canaries No.	Salmon fresh.	Salmon preserved in cans.	Herring salted.	Herring fresh.	Mackerel fresh.	Mackerel salted.	Lobsters preserved in cans.	Lobsters fresh in shell, cwt.	Number.	
		Value.	Tonnage.	Men.	Number.				Value.	Number.												Value.
Richmond Co.																						
1	Canoe to Port Malesin.	6	237	4000	28	110	926	120	1150	22500	4400	28	140	1530	116	1	1	1	1	1	1	1
2	River Inhabitants to St. Louis.	12	96	2000	28	105	1050	123	1250	24100	4850	14	70	1080	90	1	1	1	1	1	1	1
3	River Bourgeois.	17	381	5000	110	30	240	35	300	6000	1200	16	30	40	44	1750	160	3180	460	228	4	4
4	Janvin Island to Cape Angel.	3	53	525	11	163	1600	210	870	14600	9700	166	840	1418	3600	2100	35100	211	58000	228	5	
5	Archeat and Petit de Grati.	23	239	3200	63	113	1300	142	570	61600	6000	286	1430	1603	3700	35100	227	7000	228	5	5	
6	Rocky Bay and vicinity	2	58	900	18	68	1050	110	780	15200	4400	55	300	444	2100	1750	227	7000	228	5	5	
7	Descouse to Martinique.	2	119	1500	31	19	210	26	120	13400	2400	37	175	290	8000	2500	18	20	20	20	7	
8	St. Peters	1	22	400	13	19	230	26	130	2600	710	12	80	130	2000	15000	20	20	20	20	7	
9	Grande Greve and vicinity	1	22	400	15	30	500	78	90	1800	620	8	80	130	8000	1200	75	20736	48	9	9	
10	Rocklade	2	36	500	11	32	750	120	150	5730	1050	29	300	350	10000	20000	1000	20736	48	9	9	
11	L'Archeat lower and west	1	130	5200	48	245	7800	545	3600	75000	36250	37	780	1400	750	30000	25000	7000	20736	10	11	
12	Pt. Michael and Grand River	1	22	750	5	50	1100	112	610	12200	3240	33	300	1000	300	110	6000	3400	950	20736	11	12
13	L'Archeat and St. Esprit	1	22	750	5	39	570	104	290	39300	1200	14	80	120	40	1600	1550	280	25020	100	13	
14	Frankhouse and vicinity.	1	18	600	4	35	680	90	110	35600	900	28	135	100	75	1400	1000	150	64320	380	15	
15	Fourchu	1	18	600	4	35	680	90	110	35600	900	28	135	100	75	1400	1000	150	64320	380	15	15
16	Irish Cove to Black River including Indian Reserve and Linchy river	1	18	600	4	35	680	90	110	35600	900	28	135	100	75	1400	1000	150	64320	380	15	16
Totals		62	1412	25175	375	1166	21070	2027	10210	205460	78220	837	5000	1920	8167	123600	108400	10511	270152	1283		

SESSIONAL PAPER No. 22

RETURN Showing the Kinds and Quantities of Fish and Fish Products in the County of Richmond, Province of Nova Scotia, for the Year 1904.

Fishing District.	KINDS OF FISH.													Number.	Total Value of All Fish.									
	Cod, dried, cwt.	Cod, tongues, and sounds, brls.	Haddock, fresh, lb.	Haddock, dried, cwt.	Haddock, smoked, lb.	Haddock, smoked, lb.	Hake, dried, cwt.	Hake, smoked, lb.	Pollock, cwt.	Halibut, lb.	Trout, lb.	Smelts, lb.	Alwives or Gaspereau, brls.			Eels, brls.	Clams, brls.	Flounders, lb.	Tom cod or frost fish, lb.	Squid, brls.	Coarse and mixed fish, brls.	Fish as bait, brls.	Dogfish, lb.	
<i>Richmond Co.</i>																								
1 Canso to Port Malcolm.....	130	.....	.....	10	.....	.....	.....	.....	35	8000	.....	6300	.....	.....	.....	30000	.....	.....	30	50	60	.....	10,385 00
2 River Inhabitants to St. Louis.....	70	.....	.....	35	.....	.....	.....	.....	110	8000	.....	1300	.....	.....	.....	8000	.....	.....	25	50	50	.....	8,205 00
3 River Bourgeois.....	2100	.....	.....	265	.....	.....	.....	.....	438	5800	.....	3100	48	255	155	21000	.....	.....	30	900	100	.....	17,840 00
4 Jourvin Island to Cape Auger.....	1497	19	31000	1293	105	23	438	8200	42	1897	.....	3100	6	240	55	86350	.....	231	5233	730	1375	13000	42,672 25
5 Arctiat and Petit de Grad.....	1825	25	342500	1717	191000	97	42	1897	29	4	18800	.....	6	240	55	57000	.....	1168	913	680	790	11400	81,834 00
6 Rocky Bay and vicinity.....	835	8	11000	139	.....	.....	.....	.....	46	.....	.....	600	13	35	55	75800	.....	133	280	290	500	5500	19,402 75
7 Descouse to Martinique.....	1438	10	8000	84	.....	.....	.....	.....	11	3400	.....	18500	22	35	33	19100	.....	210	32	825	550	500	13,656 75
8 St. Peters.....	175	2	1000	52	.....	.....	.....	.....	1	.....	.....	200	10	16	.....	10000	.....	14	30	100	62	.....	4,394 50
9 Grand Greve and vicinity.....	210	6	6000	75	.....	.....	.....	.....	19	9	65	400	43	41	.....	4050	.....	25	63	200	66	.....	10,968 75
10 Rockdale.....	750	4	16000	700	.....	.....	.....	.....	20	10	300	500	90	20	.....	8500	.....	5000	70	100	800	100	33,620 00
11 L'Ardoise lower and west.....	6700	25	36000	3250	.....	.....	.....	.....	30	17	1200	2500	550	20	2	5500	.....	7000	80	205	5850	200	161,655 00
12 Pt. Michaud and Grand River.....	600	2	5000	130	.....	.....	.....	.....	30	13	170	1800	45	30	10	7500	.....	3000	50	58	550	49	26,085 30
13 L'Archevêque and St. Esprit.....	520	8	6400	350	.....	.....	.....	.....	32	12	100	2000	50	31	2	8000	.....	6000	58	110	210	36	17,284 00
14 Francoise and vicinity.....	400	8	2000	110	.....	.....	.....	.....	17	9	85	1750	19	22	2	5700	.....	7000	45	78	500	170	6,879 75
15 Fourchu.....	800	5	1000	150	.....	.....	.....	.....	20	14	220	5800	30	17	4	9000	.....	5000	100	100	1050	300	28,031 50
16 Irish Cove to Black River including Indian Reserve and Lunchy river.....	1300	12	300	10	22	12	270	2200	39	89	6000	10000	130	700	48	10,660 00
Total.....	19410	139	466200	8280	191000	432	170	4558	432	67250	6350	36600	905	921	328	362000	63000	2184	2767	13485	4456	30400	493,585 00

RETURN showing the Number, Tonnage and Value of Vessels, Boats, Nets, &c., also the kinds of Fish in the County of
Cape Breton—Nova Scotia—Continued.

Number.	Fishing Districts.				Fishing Vessels and Boats								Fishing Gear or Materials.				Kinds of Fish.						Number.										
					Vessels.		Boats.		Gill Nets.				Trawls.		Lobster Canneries, No.				Salmon, fresh, lb.		Salmon, salted, brls.			Herring, salted, brls.		Herring, fresh, lb.		Mackerel, fresh, lb.		Mackerel, salted, brls.		Lobsters, preserved in cans, lb.	
Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	
Cape Breton Co.																																	
1	Gabarus and vicinity	2	43	1200	11	46	1450	75	190	4750	1350	40	120	1	4600	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	Louisbourg	1	21	500	5	25	1000	50	250	6250	1750	60	180	1	800	12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3	Big Lorraine and vicinity	2	27	500	7	81	1326	170	514	18800	5900	44	315	2	9400	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	Little Lorraine L. Mira River, including Main-a-Dieu.	1	11	300	5	17	1360	60	35	900	525	9	75	..	1050	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5	Scatarie Island	3	61	1500	15	60	658	86	210	6410	1703	140	700	2	465	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	Port Morien and vicinity	4	75	1500	20	15	300	30	100	2000	900	60	360	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7	Schooner Pond and Glace Bay	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
8	Lingan, Low Point and South Bay	3	39	2500	10	34	500	60	123	2400	1023	60	600	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9	North Sydney to Boisdale	4	49	2500	22	38	710	80	120	2400	1080	150	630	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10	Little Bras d'Or and Sydney Mines	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11	Piper's Cove to East Bay	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals..		20	326	10550	95	450	9885	873	2068	54410	18819	637	3644	12	16495	12	6314	104514	43150	756,389,866

SESSIONAL PAPER No. 22

RETURN showing the Quantity and Value of Fish, &c.—Nova Scotia—Continued.

FISHING DISTRICT.	KINDS OF FISH,													FISH PRO- DUCTS.		TOTAL VALUE OF ALL FISH.	Number.			
	Lobsters, fresh in shell, cwt.	Cod, dried, cwt.	Cod, tongues and sounds, brls.	Haddock, fresh, lb.	Haddock, dried, cwt.	Hake, dried, cwt.	Pollock, cwt.	Halibut, lb.	Trout, lb.	Shad, brls.	Smelts, lb.	Alwives or Gaspe- rean, brls.	Eels, brls.	Oysters, brls.	Clams, brls.			Tom Cod or Frost fish, lb.	Squid, brls.	Fish oil, galls.	Fish as bait, brls.
<i>Cape Breton Co.</i>																				
1	1688	2200			250		120	2000	200	40	1900	140					10	1200	25	47,296 30
2	400	1800			420		267											1500	120	28,958 00
3	45	850			300		197											700	85	13,638 50
4	625	3265			409		482	2600	400	16	1200	27					12	2030	75	43,507 00
5		3100		1300	60	2	80	1400	100			7						300	15	16,423 00
6		681			47		47					6	8		86		10	246		21,134 94
7	40	775			125	59	135	6000									5	450	66	8,396 75
8	40	1385			216	49	129	6000									10	500	35	16,418 25
9	12	2000			385	30	275	12000									6	450	50	22,036 00
10	60	1924	4		173	16	164	14000	3000		4000	48	120	8				650	41	43,435 00
11	22	700					30											80	78	9,010 50
Totals.	2912	18680	4	1300	2385	156	1917	44000	3600	156	7100	228	130	8	86		53	8106	590	270,254 44

SESSIONAL PAPER No. 22

Return showing the kinds and quantities of Fish and Fish Products in the County of Victoria, Province of Nova Scotia for the year 1904.

Number.	FISHING DISTRICTS.	KINDS OF FISH.														TOTAL VALUE OF ALL FISH.	Number.				
		Cod, dried, cwt.	Cod, fresh, lb.	Haddock, dried, cwt.	Hake, dried, cwt.	Pollock, cwt.	Halibut, lb.	Trout, lb.	Smelts, lb.	Alwives, or Gas- pereau, brls.	Eels, brls.	Oysters, brls.	Tom Cod or Frost Fish, lb.	Squid, brls.	Coarse and Mixed Fish, brls.			Fish Oil, galls.	Fish as bait, brls.	Seal skins, No.	
1	Big Bras d'Or	160		65		35		1400	5800	20	44	40	3650			28	80	19		1,556 25	1
2	North and South side Little Narrows	354						410	1000	11	24	14				5	32	11		3,726 00	2
3	Buddick Bay and vicinity	91	300	1		9										5	5			1,003 45	3
4	Barachois	28		5		5										43	20	5		558 50	4
5	Indian Brook to French River	146		35		14										1	123	51		10,564 40	5
6	Wreck Cove to Smoky Head	87		16		16	1500									11	170	32		7,948 00	6
7	South Bay	2650		1500												80	320	50		22,056 00	7
8	North Bay and Middle Head	6940		3662		1650										170	2196	190	108	62,891 80	8
9	Green Cove, New Haven and Neils Harbour	3310		450		50	1700									90	690			34,671 00	9
10	Dingwall to White Point	1310		25		80	17000				20					58	1100	70		16,578 00	10
11	Sparlings Brook to Money Point	240		25		30	1800									6	182	80	16	6,160 00	11
12	Sugar Loaf and Bay St. Lawrence	420		90		55	3900									15	280	360	24	10,234 00	12
	Totals	15936	300	6323	1	1937	25900	1810	7700	31	88	54	3650	438	1361	5171	468	108		178,577 40	
	Values																				

RETURN showing the Number, Tonnage and Value of Vessels, Boats and Nets and the Quantity and Value of Fish in the County of Inverness, Province of Nova Scotia, for the Year 1904.

Number.	Fishing Districts.				Fishing Vessels and Boats.				Fishing Gear or Materials.				Kinds of Fish.										
	Vessels.		Boats.		Gill Nets.				Trawls.		Number of Canned.		Salmon, fresh, lb.	Salmon, preserved in cans, lb.	Herring, salted, brls.	Herring, fresh, lb.	Mackerel, fresh, lb.	Mackerel, salted, brls.	Lobsters, preserved in cans, lb.	Lobsters, fresh in shell, cwt.	Cod, dried, cwt.	Cod, tongues and sounds, brls.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Value.	Number.	Value.												
<i>Inverness Co.</i>																							
1					50	650	96	46	3010	1625	4	50	3	12680	250	81	4224	...	8700	...
2					12	2000	106	139	3500	1490	22	365	3	7000	...	...	...	35	42702	...	4405	25
3					5	200	23	37	555	185	4	50	3	1000	500	50	...	3	10	1574	...	350	12
4					4	250	9	7	500	450	1	30	1	1500	...	...	...	3	...	...	100	4
5					49	1325	115	69	2920	3215	16	295	2	11700	...	...	...	21	1488	60	1400	4
6					30	1500	103	85	4810	5400	9	175	1	46500	91	91	...	29	13488	218	1285	3	
7					11	470	30	14	690	620	4	86	1	1800	...	...	...	13	15300	610	1285	3
8					27	373	52	50	1210	484	14	56	1	1800	...	...	...	35	37290	50	33	...
9					56	1200	78	300	900	300	150	750	1	1800	...	...	...	120	51280	...	1000	...
10					6	720	102	105	3200	950	105	410	2	700	...	...	...	136	40560	...	295	...
11					1	13	250	4	500	70	70	2000	950	65	270	700	240	...	24	19801	...	130	...
12					14	10	130	17	13	380	130	...	...	...	...	...	...	300	...	...	40	...
13					67	804	92	300	6000	750	32	96	...	...	...	...	...	...	...	...	490	...
14					42	494	49	152	3040	380	27	63	...	...	...	...	...	...	...	...	355	...
15					25	250	40	23	460	161	3	12	...	...	...	...	...	...	...	...	50	...
Totals.																							
27	1029	9050	145	539	11526	988	1110	33185	17090	456	2708	18	82880	750	2036	481700	2100	772	272492	938	18633	41	

Fishing Districts.	Kinds of Fish.										Fish Products.				Total Value of all Fish.	Number.				
	Haddock, fresh,	Haddock, dried,	Haddock, smoked, lb.	Hake, dried, cwt.	Hake, sound, lb.	Pollock, cwt.	Halibut, lb.	Trout, lb.	Smelts, lb.	Alwives or sardines, lb.	Eels, lbs.	Oysters, bbls.	Clams, bbls.	Squid, bbls.			Coarse and mixed fish, bbls.	Fish oil, galls.	Fish as bait, bbls.	Fish as manure, bbls.
<i>Inverness Co.</i>																				
1 Meat Cove to Fishing Cove.....	11100	1120	400	1573	260	175	8310	2550	3400	64	130	300	10	638	1394	5995	2005	870	292,385	25
2 Eastern Harbour to Cape Rouge.....																				
3 Cheticamp Point and Lake.....																				
4 Chimney Corner and vicinity.....																				
5 Margaret District.....																				
6 Doucet's Cove and vicinity.....																				
7 Broad Cove.....																				
8 Mabon and vicinity.....																				
9 Port Hood.....																				
10 Judique districts.....																				
11 Long Point and Low Point.....																				
12 Port Hastings to Hawkesbury.....																				
13 West Bay and Malagawatch.....																				
14 River Dennis.....																				
15 Whyreconagh.....																				
Totals.....	11100	1120	400	1573	260	175	8310	2550	3400	64	130	300	10	638	1394	5995	2005	870	292,385	25

5-6 EDWARD VII., A. 1906

RECAPITULATION

Of the Yield and Value of the Fisheries of the **Island of Cape Breton**, for
the year 1904.

Kinds of fish.	Quantity.	Rate.	Value.	Total value.
		\$ cts.	\$ cts.	\$ cts.
Salmon, fresh..... Lb.	133,228	0 20	26,645 60	
" preserved in cans..... "	2,670	0 15	400 50	
" pickled..... Brls.	12	15 00	180 00	27,226 10
Herring, salted..... "	17,384	4 50	78,228 00	
" fresh..... Lb.	851,739	0 01	8,517 39	86,745 39
Mackerel, fresh..... "	166,150	0 12	19,938 00	
" salted..... Brls.	12,422	15 00	186,330 00	206,268 00
Lobsters, preserved in cans..... Lb.	1,148,322	0 25	287,080 50	
" fresh in shell..... Cwt.	5,203	5 00	26,015 00	313,095 50
Cod, dried..... "	72,689	4 50	327,100 50	
" tongues and sounds..... Brls.	187	10 00	1,870 00	328,970 50
Haddock, dried..... Cwt.	18,108	3 00	54,324 00	
" fresh..... Lb.	478,900	0 03	14,367 00	
" smoked (finnan haddies)..... "	191,400	0 06	11,484 00	80,175 00
Hake, dried..... Cwt.	2,162	2 25	4,864 50	
" sounds..... Lb.	430	0 50	215 00	5,079 50
Pollock..... Cwt.	8,587	2 00	17,174 00	
Halibut..... Lb.	145,460	0 10	14,546 00	
Trout..... "	14,310	0 10	1,431 00	
Shad..... Brls.	156	10 00	1,560 00	
Smelts..... Lb.	54,800	0 05	2,740 00	
Alewives..... Brls.	1,288	4 00	5,152 00	
Eels..... "	1,269	10 00	12,690 00	
Oysters..... "	362	5 00	1,810 00	
Clams..... "	424	2 00	848 00	
Flounders..... Lb.	362,000	0 03	10,860 00	
Tom Cod..... "	71,850	0 03	2,155 50	
Squid..... Brls.	3,313	4 00	13,252 00	
Coarse and mixed fish..... "	5,522	2 00	11,044 00	
Fish Oil..... Galls.	32,757	0 30	9,827 10	
Fish as bait..... Brls.	7,519	1 50	11,278 50	
Fish as fertilizer..... "	870	0 50	435 00	
Seal Skins..... No.	108	1 25	135 00	
Dog fish..... Lb.	30,400	0 01	304 00	117,242 10
				\$1,164,802 09
				1,116,491 86
				48,310 23

SESSIONAL PAPER No. 22

RECAPITULATION.

STATEMENT showing the number and value of fishing crafts, nets, &c., in the **Island of Cape Breton**, for the year 1904.

Articles.	Value.		Total.
	\$	cts.	\$ cts.
111 fishing vessels, 3,478 tons, (624 men).....	45,975	00	
2,734 fishing boats (4,866 men).....	55,084	00	
15,177 gill-nets (391,255 fathoms).....	128,777	00	
3 seines (300 fathoms).....	950	00	
4 trap-nets.....	1,840	00	
2,300 trawls.....	13,755	00	
14 wiers.....	300	00	
17 smelt-nets.....	640	00	
11,060 hand lines.....	8,808	00	
58 lobster canneries (2,602 persons employed).....	43,000	00	256,129 00
124,446 " traps.....	62,111	00	
33 freezers and ice houses.....	14,165	00	105,111 00
1,324 smoke and fish houses.....	36,603	00	
404 piers and wharfs.....	73,330	00	
73 tugs, steamers and smacks.....	12,930	00	
			137,028 00
Total.....			498,268 00

NOVA SCOTIA DISTRICT NO. 2.

RETURN showing the Number, Tonnage and Value of Vessels, Boats, Nets, &c., also the Kinds of Fish in the County of Cumberland, Province of Nova Scotia, for the Year 1904.

Number.	DISTRICT.	FISHING VESSELS AND BOATS.						FISHING GEAR OR MATERIALS.						KINDS OF FISH.						Number.		
		Vessels.			Boats.			Gill Nets.			Trawls.			No. of Lobster Canneries.								
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Value.	No.	Salmon, fresh, lb.	Salmon, smoked, lb.	Herring, salted, brls.	Herring, fresh, lbs.	Herring, lb.		Macrarel, fresh, lb.	Lobsters, preserved in cans, lb.
1	Cumberland Co.	1	10	300	3	89	2012	98	230	4595	1140	700	1500	29			60	14000	277000	6200	358648	1
2	Pugwash, Malbagash and Gulf Shore...					137	2900	215	310	9000	1575			11			95	14000	277000	1000	43568	2
3	Fort Philip, Northport and Amherst Shore...					10	120	10														3
4	Wallace...					15	150	15	30	450	180											4
5	River Philip...					3	60	6														5
6	La Planchette, Nappan and Maccan...					12	230	20	31	1810	605	13	50									6
7	Minudie to Apple River	1	17	250	5	4	130	12	8	300	60	2	20									7
8	Advocate					5	250	12	12	270	60	3	50									8
9	Spencers Island					5	250	12	12	270	60	3	50									9
10	Port Greville...					10	120	10	8	120	40											10
11	Barabaro					2	30	4	4	40	50											11
	Two Islands																					
	Totals.	2	27	550	8	287	6212	419	639	10825	3752	720	1640	40	13650	500	580	19100	277000	7200	402216	
	Values.														2730	100	2610	191	5540	864	100554	

RETURN showing the Kinds and Quantities of Fish and Fish Products in the County of Cumberland, Province of Nova Scotia, for the Year 1904.

Number.	District.	KINDS OF FISH.																	Total Value of All Fish.	Number.					
		Lobsters, fresh in shell, cwt.	Cod, dried, cwt.	Tongues and Sounders, brls.	Haddock, fresh, lb.	Haddock, dried, cwt.	Hake, dried, cwt.	Pollack, cwt.	Hallibut, lb.	Trout, lb.	Shad, brls.	Smelts, lb.	Alwives or Gasparreau, brls.	Bass, lb.	Eels, brls.	Oysters, brls.	Flounders, lb.	Tom Cod or Frost Fish, lb.			Coarse and Mixed Fish, brls.	Fish Oil, galls.	Fish as bait, brls.	Fish as manure, brls.	Clams, brls.
	<i>Cumberland Co.</i>																								
1	Pugwash, Malagash and Gulf Shore...	20	45						200		22,500	5			635						1043	3500		98,673 00	1
2	Port Philip, Northport and Amherst Shore...	35							700		17000	50	500	15			3500	7000	700		3300	1170	30	33,669 50	2
3	Wallace								800		8300	104			103					25				1,476 00	3
4	River Philip								100			25		30										885 00	4
5	La Planche, Nappan and Maccan	75	60		5000	10	20	1000	400	175	2500	350					1000							1,755 00	5
6	Minidie to Apple River								100			80					1000	1200		50	25			6,116 00	6
7	Advocate				400	70	80	500	500								500			25	3			1,011 50	7
8	Spencers Island				500	500	20	35	2000	150							400			20	3			799 50	8
9	Port Greyville				10	500	20	50	3000								450			10	5			1,042 00	9
10	Parishboro'					500	20	75	2000	200							250				4			1,482 50	10
11	Two Islands																350							645 50	11
	Totals	130	295	10	7300	100	150	310	9300	2650	175	205300	614	500	45	743	6450	9200	725	105	4387	4000	30		
	Values	910	1327	100	219	570	337	620	930	265	1750	10265	2456	50	450	3715	193	276	1450	31	6580	2300	60		147,445 50

SESSIONAL PAPER No. 22

RETURN showing the Kinds and Quantities of Fish and Fish Products in the County of Colchester, Nova Scotia, for the year 1904.

Number.	FISHING DISTRICT.	KINDS OF FISH.											TOTAL VALUE OF ALL FISH.	Number.
		Pollock, cwt.	Halibut, lb.	Trout, lb.	Shad, brls.	Smelts, lb.	Alewives or Gaspe- rean brls.	Basas, lb.	Oysters, brls.	Fish oil, galls.	Fish as bait, brls.	Fish as manure, brls.		
1	Sterling	.....	.....	7000	400	12000	.....	9000	175	.....	.....	350	.....	10,962 00
2	Stewiacke	.....	.....	2500	.....	.....	200	.....	.....	175	.....	.....	.....	14,600 00
3	Five Islands	5	3000	.....	.....	.....	.....	.....	.....	.....	25	.....	.....	2,453 75
4	Economy	4	1000	5500	3	.....	.....	.....	.....	30	5	.....	.....	845 50
5	Little Boss River to Highland Village	.....	.....	1200	9	.....	.....	.....	.....	.....	.....	.....	700	2,746 00
6	Great Village to Queen's Village	.....	.....	.....	18	.....	.....	.....	.....	.....	.....	.....	.....	2,086 00
	Totals	9	4000	16200	430	12000	200	9000	175	295	30	350	700	.....
	Values	18	400	1620	4300	600	800	900	875	61	45	175	1400	33,703 25

RETURN showing the Number and Value of Boats, Nets, &c., in the County of Pictou, Province of Nova Scotia, for the Year 1904.

Number.	Fishing Boats.			Fishing Gear or Materials.						Kinds of Fish.						Number.
	Number.	Value.	Men.	Gill Nets.		Trawls.		Lobster Canneries.		Herring, fresh, lb.	Herring, salted, brls.	Mackerel, fresh, lb.	Lobsters, preserved in cans, lb			
				Number.	Fathoms.	Value.	Number.	Value.	Number.					Value.		
Pictou Co.																
1	West Pictou.....	141	4935	146	120	3600	960	12	120	13	12550	1200	140	10000	2500	248208
2	Pictou Island.....	94	2650	110	36	800	220	.....	.....	3	13000	.....	.....	12000	600	146640
3	Central Division.....	10	250	12	20	400	80	.....	.....	.....	.....	.....	.....	.....	.....	.....
4	Southern Division.....	29	434	34	49	1583	577	17	67	1	500	15400	.....	49500	500	11352
5	Merigonish Island.....	13	249	14	24	1252	645	.....	.....	3	800	4400	.....	3000	1500	11376
6	North Beach and Ponds.....	25	246	27	34	2213	1189	4	20	3	1300	9300	.....	20000	3240	27984
7	Lunenburg.....	12	177	13	21	1702	659	5	25	1	300	2800	.....	20000	3240	9360
Totals.....		324	8991	356	324	11530	4330	38	232	22	29050	33100	140	107500	8340	457920
Values.....		6320	630	1075	1000	114480

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RETURN showing the Kinds and Quantities of Fish and Fish Products in the County of Pictou, Province of Nova Scotia, for the Year 1904.

Number.	Districts.	KINDS OF FISH.												TOTAL VALUE OF ALL FISH.	Number.
		Cod, dried, cwt.	Haddock, fresh, lb.	Hake, dried, cwt.	Trout, lb.	Smelts, lb.	Alwives or Gas- pareau, brls.	Eels, brls.	Oysters, brls.	Coarse and mixed fish, brls.	Fish as bait, brls.	Fish as manure, brls.	Clams.		
<i>Pictou Co.</i>															
1	West Pictou	60			300	2500	40		25	20	700	2500	50	66,472 00	1
2	Pictou Island	10	300									1500		37,636 00	2
3	Central Division				200	3000		140	20					1,070 00	3
4	Southern Division	50	2200	17	500		50				50	1400		8,577 25	3
5	Morigonish Island	12	700	5		31626					20	1200		6,451 55	5
6	North Beach and Ponds	4	1450	8	400	7330		56			70	2800		11,717 00	6
7	Lismore	20	5800	50				3				90		3,940 30	7
Totals		156	10450	80	1400	44456	90	199	45	20	840	9490	50		
Values		702	313	180	140	2222	360	1990	225	40	1260	4745	100	136,084 10	

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RETURN showing the Kinds and Quantities of Fish and Fish Products in the County of Antigonish, Province of Nova Scotia, for the year 1904.

Number.	FISHING DISTRICTS	KINDS OF FISH.																TOTAL VALUE OF ALL FISH.	Number.								
		Lobsters, preserved in cans, lb	Cod, dried, cwt.	Haddock, fresh, lb.	Haddock, dried, cwt.	Haddock, smoked finnan haddies, lb	Hake, dried, cwt.	Hake, sounds, lb.	Pollock, cwt.	Trout, lb.	Shad, brls.	Smelts, lb.	Alewives or gaspe- reau, brls.	Bass, lb.	Eels, brls.	Oysters, brls.	Flounders, lb.			Tom cod or frost fish, lb.	Squid, brls.	Coarse and mixed fish.	Fish oil, galls.	Fish as bait, brls.	Fish as manure, brls.	Clams, brls.	
1	Harbour Bonche Linwood and Cape Jack	57600	163	...	6	...	60	73 44	...	1	300	...	...	13	8	8750	150	15	204	560	278	800	...	...	22,825 00	1
2	Tracadie, Bayfield, Monk's Head and South Side Antigonish Harbour	17800	37	...	...	150	...	...	125	1700	2	...	29	75	3350	...	...	...	15	40	296	180	2	...	14,910 00	2
3	North Side Antigonish Hbr, Lake- vale, and South Side Cape George	62736	208	800	47	...	200	430	300	1500	9	...	...	...	...	5400	...	4	67	72	274	620	...	...	21,673 60	3
4	North Side of Cape George and Georgeville	15648	83	1200	24	...	90	220	800	3	44	64	120	150	5,894 20	4
5	Malignant Cove, Doctor's Brook, Arisaug, Mordart and Knoidart.	22032	41	2400	36	...	234	460	200	100	600	5	51	170	135	220	8,388 50	5
	Totals	175816	532	4400	113	150	584	1183 44	625	1 3500	11	100	42	83	18000	150	27	381	906	1103	1970	2	...	...	...	...
	Values	43654	2394	132	339	9	1314	591 88	62	10	175	44	10	420	415	567	4	108	762	271	1654	985	4	74,291 30	

5-6 EDWARD VII., A. 1906

RETURN showing the Number and Value of Vessels and Boats, Nets, &c., in the County of Guysborough, Province of Nova Scotia, for the year 1904.

FISHING VESSELS AND BOATS.				FISHING GEAR OR MATERIAL.				KINDS OF FISH.																																																																																																																																																																																																																																																																																																																																																																																	
Number.	Vessels.			Boats.			Gill Nets.		Trawls.		Lobster Canisters, No.	Salmon, fresh, lb.	Salmon, smoked lb.	Herring, fresh, brls.	Herring, fresh, lb.	Herring, smoked, lb.	Mackerel, fresh, lb.	Mackerel, salted, brls.	Lobster, preserved in cans, lb.	Lobster, fresh in shell, cwt.	Cod, dried, cwt.	Tongues & sounds, brls.																																																																																																																																																																																																																																																																																																																																																																			
	Tonnage.	Value.	Men.	Number.	Value.	Men.	Value.	Number.																																																																																																																																																																																																																																																																																																																																																																																	
Guilford Co.																																																																																																																																																																																																																																																																																																																																																																																									
1	Edm Secum	43	800	48	800	300	12	100	1	700	50	1500	500	10	7152	76	200	1	200																																																																																																																																																																																																																																																																																																																																																																						
2	Marie Joseph	50	1100	43	1000	325	20	150	1	80	1000	300	12	2888	380	275	3	450	3	2																																																																																																																																																																																																																																																																																																																																																																					
3	Liscumb Spanish Ship Bay	90	2000	80	2000	600	25	200	1	1500	150	175	2000	5	37968	380	450	3	450	3	2																																																																																																																																																																																																																																																																																																																																																																				
4	Geogin	25	500	25	500	250	10	100	1	1500	150	800	800	200	576	25	50	4	450	4	4																																																																																																																																																																																																																																																																																																																																																																				
5	St. Mary's Bay and River	34	600	30	70	2000	1000	10	75	1	9000	500	120	300	576	25	50	4	450	4	4																																																																																																																																																																																																																																																																																																																																																																				
6	Wine Harbour	28	575	32	60	1600	450	10	75	1	9000	500	120	300	576	25	50	4	450	4	4																																																																																																																																																																																																																																																																																																																																																																				
7	Port Hilford	50	800	40	800	1700	600	30	200	1	3000	200	225	500	300	225	1500	500	30	225	1	7																																																																																																																																																																																																																																																																																																																																																																			
8	Holland's Harbour and Indian River	18	200	20	26	520	160	3	45	1	100	60	1000	300	17328	88	25	2	17328	88	25	2																																																																																																																																																																																																																																																																																																																																																																			
9	Port Beckett	34	800	40	75	1600	400	10	80	1	200	400	3000	120	17328	88	25	2	17328	88	25	2																																																																																																																																																																																																																																																																																																																																																																			
10	Fisherman's Harbour	12	140	12	25	500	180	15	8	1	1200	500	2000	300	11	125	430	3	11	125	430	3	9																																																																																																																																																																																																																																																																																																																																																																		
11	Country Harbour	2	43	1500	15	300	300	250	1200	1200	1200	180	2000	800	10	11	25	25	11	22848	88	25	2																																																																																																																																																																																																																																																																																																																																																																		
12	Isaac Harbour	35	1600	48	150	3000	800	50	400	1	1200	175	3000	1200	120	120	350	414	120	22848	88	25	2																																																																																																																																																																																																																																																																																																																																																																		
13	Drum Head	8	35	1100	40	1000	600	20	160	1	100	160	3000	506	300	20412	207	350	414	22848	88	25	2																																																																																																																																																																																																																																																																																																																																																																		
14	Seal Harbour	34	800	35	80	1000	500	12	100	1	200	150	600	400	25	20160	360	350	414	22848	88	25	2																																																																																																																																																																																																																																																																																																																																																																		
15	Coddle's Harbour	100	2200	100	300	6000	2000	35	250	1	200	300	3000	3800	59	17352	36	350	414	22848	88	25	2																																																																																																																																																																																																																																																																																																																																																																		
16	New Harbour	13	1000	4	24	1200	30	240	14	140	1	70	300	345	17352	36	350	414	22848	88	25	2																																																																																																																																																																																																																																																																																																																																																																			
17	Tor Bay	8	169	6000	43	75	5200	80	843	16860	8430	54	540	275	34464	11	1800	15	345	17352	36	350	414	18																																																																																																																																																																																																																																																																																																																																																																	
18	Larry's River	32	1225	13	47	1625	35	381	7820	4680	56	560	1	400	275	34464	11	1800	15	345	17352	36	350	414	18																																																																																																																																																																																																																																																																																																																																																																
19	Charles Cove	2	23	1650	10	10	10	10	10	10	10	10	10	200	275	34464	11	1800	15	345	17352	36	350	414	18																																																																																																																																																																																																																																																																																																																																																																
20	Cole Harbour	5	85	4000	28	106	5300	104	906	18120	9060	175	1750	2	200	6450	1160	20	275	34464	11	1800	15	345	17352	36	350	414	18																																																																																																																																																																																																																																																																																																																																																												
21	Port Felix	7	92	3200	34	104	5875	96	713	14260	7130	220	2200	3	300	15770	300	20	200	6450	1160	20	275	34464	11	1800	15	345	17352	36	350	414	18																																																																																																																																																																																																																																																																																																																																																								
22	White Head	2	54	1200	11	69	2290	60	140	2800	1400	55	550	3	300	29250	100	52632	143	200	6450	1160	20	275	34464	11	1800	15	345	17352	36	350	414	18																																																																																																																																																																																																																																																																																																																																																							
23	Raspberry and Dover	17	325	25500	107	154	8120	170	850	17000	8500	450	450	3	1000	90000	52	90064	422	1070	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	2

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26 Half Island Cove	50	2150	58	970	19400	9700	85	850	1	500	550	45000	95000	674	1887	26									
27 Phillips Harbour	30	1250	26	360	7200	3600	50	500			70	9800	9000	100	365	27									
28 Queensport	60	2400	60	620	12400	6200	110	1100	2	800	200	68500	25750	400	977	28									
29 Peas Brook	35	1100	45	320	6400	3200	60	600			90	15000	9000	80	760	29									
30 Halfway Cove	60	1950	70	540	10800	5400	90	900			250	17400	2900	65	882	30									
31 Sandy Cove and Cooks Cove	50	1500	60	695	13164	7485	50	500	2730		200	26550	9450	40	822	31									
32 Gursboro and Manchester	18	540	20	242	5480	2840	36	360	3900		40	11100	3300	80	109	32									
33 Port Shoreham	25	750	30	300	6240	3210	40	400	800		100	15550	1000	40	210	33									
34 St. Francis	50	1500	58	632	12640	6320	58	580			150	10250	28350	100	230	34									
35 Oyster Ponds	44	1320	50	510	10200	5100	34	340			100	8050	24600	200	148	35									
36 Sand Point	30	950	38	372	7440	3720	38	380			290	1750	1550	100	210	36									
37 Middle Milford	58	2320	58	921	18420	9210	47	470	1		340	4175	16150	400	123	37									
38 Mulgrave and Aukds Cove	12	240	12	180	5600	1800	18	180	2		54	6200	90000	68	28	38									
Totals	61	1126	61450	360	1808	69675	1933	12761	258624	124240	2185	20953	29	29430	950	8379	988275	10000	778650	4787	533852	2009	30140	68	
Values																									
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25	Fox Island	20000	650	120000	200	200	149	50</
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RETURN showing the Number, Tonnage and Value of Vessels and Boats, Nets, etc., and Value of all Fishing Materials and other fixtures used in the Fishing Industry in the County of Halifax, Province of Nova Scotia, for the year 1904.

Number.	DISTRICTS.	FISHING VESSELS AND BOATS.										FISHING GEAR OR MATERIALS.						KINDS OF FISH.						Lobster Canneries No.	Salmon, fresh, lb.	Salmon, smoked, lb.	Herring, salted, brls.	Herring, fresh, lb.	Mackerel, fresh, lb.	Mackerel, salted, brls.	Lobsters, preserved in cans, lb.	Number.
		Vessels.				Boats.			Gill Nets.			Seines.																				
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.																		
1	North Shore.	3	166	4300	35	167	1200	300	624	14450	4400	76	7600	26300	%				1000			200	4000	100000	100					100	1	
2	East St. Margarets.	3	154	2500	300	629	14550	4140	27	2700	9450	1						5000	100			500	30000	200000	50					50	2	
3	Indian Harbour.	4	80	2900	20	467	5500	300	1017	21600	5500	20	2000	7000				3000	100			1600	40000	200000	90					90	3	
4	Peggy's Cove.	4	76	2000	25	342	4800	200	735	17000	5000	63	6300	22950				1000	25			1000	3000	6000	25					25	4	
5	Dover.	4	76	2000	25	342	4800	200	735	17000	5000	63	6300	22950				5000	250			1000	25000	300000	80					80	5	
6	Prospect.	2	40	800	10	160	2500	200	469	10700	3950	40	4000	14000				6000				400	20000	150000	10					10	6	
7	Terence Bay.	5	77	1900	22	165	2500	280	264	6250	1830	15	1500	5250				300				50	30000	200000	75					75	7	
8	Pennant.	7	118	3000	34	40	500	28	142	4100	1125	9	900	3150				1000				100	8000	50000	6					6	8	
9	Santhro.	7	110	3100	37	80	1000	95	318	7650	2100	9	900	3150				290				100	8000	10000	10					10	9	
10	Ketch Harbour.	2	42	1000	10	52	1000	122	312	7000	2160	14	1400	4900				500				200	10000	150000	15					15	10	
11	Portuguese Cove.	2	48	1000	10	46	1000	78	318	7450	2340	18	1800	6300				500				50	12000	50000	6					6	11	
12	Herring Cove.	5	195	3000	35	52	1200	90	194	4800	1500	25	2500	8750				400				80	4000	20000							12	
13	Ferguson's Cove	2	52	800	10	30	700	90	60	1900	610	20	2000	7000				300				80	1000	6000							13	
14	Bedford and Halifax.	1	49	5000	12	72	1240	40	253	15180	1136							300				300	300								14	
15	Eastern Passage and Devil's Island.	1	49	5000	12	72	1240	40	253	15180	1136							250				100	22400	13200	16					16	15	
16	Cove Bay and Lawrence-town.					24	460	18	76	4560	380							576				37	800	700	5					5	16	
17	Seaforth, Threepathom Hr. and West Chizeetcook.	5	298	12850	74	150	1450	60	440	29400	1800							350				500	1000		50					50	17	
18	East Chizeetcook.					38	390	26	76	4560	335											65				3					3	18
19	Petpeswick Harbour.					42	650	36	75	4500	335											40	1000	100	3					3	19	
20	Musquodoboit Harbour.	1	16	400	4	58	1150	45	100	6000	435							2400				190	600		10					10	20	
21	Jeddore.	4	73	1250	20	67	1050	56	164	9840	675	1	60	30				300				209			13					13	21	
22	Clam Hr. and Owl's Head.	3	39	650	10	84	1700	64	240	15600	1100	3	3100	470				180				783	700	300	22					22	22	

SESSIONAL PAPER No. 22

23 West Side Ship Harb'r..	120	500	18	16	200	250	750	25	6	5	4000	.....	.....	35	11	.....	1,604 50 23
24 East Side Ship Harb'our.	260	.....	15	25	2000	.....	.....	5	.....	3	.....	.....	.....	250	8	.....	2,208 00 24
25 Pleasant Hr. and Tangier	580	.....	64	69	3660	400	.....	.....	.....	2	.....	.....	.....	497	30	.....	6,482 60 25
26 Pope's Harb'our and Ge- rards Island.	359	.....	28	28	2060	.....	.....	.....	.....	3	.....	.....	.....	460	16	340 49	14,819 65 26
27 Spry Bay Taylor's Head and Mushaboon	881	.....	53	84	1540	.....	.....	.....	.....	.....	.....	.....	.....	1070	54	600	34,520 00 27
28 Sheet Harb'r. and Sober Island.	580	300	20	60	2990	300	.....	1	.....	23	.....	.....	.....	390	52	250 50	14,314 75 28
29 Beaver Harb'r. and Port Dufferin.	225	.....	3	4	370	.....	.....	.....	.....	3	.....	.....	.....	45	2	470	14,565 50 29
30 Quoddy and Harrigan Cove.	75	.....	14	3	600	.....	.....	.....	50	.....	.....	.....	25	96	5	700	23,955 30 30
31 Moser's Riv. and Smith's Cove.	159	.....	6	7	280	100	.....	.....	.....	4	.....	.....	.....	60	4	.....	637 00 31
32 Mitchell's Bay and Vic- inity	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	130	8	800	23,799 00 32
	254	190	11	6	2650	.....	.....	.....	.....	20	.....	.....	.....	14	.....	.....	.....
Totals.	13810 22087	65 156400	1888 2545	1775 1208	53475 9825	396000	615	175	3 1014	164300	24400	276	480	13554	1746	4585 110	.....
Values.	..... \$ 90370 99391	650	4632 5664 5726	887 2416	5347 982	1980 2460	1750 15 2028	4929	732 1104	978	4066 2619 2292	137	606,419 25	.....	.....	.....	.....

SESSIONAL PAPER No. 22

RECAPITULATION

OF Yield and Value of the Fisheries in District No. 2, Nova Scotia with Comparative Statements of the increase or decrease for the Years 1903 and 1904.

Kinds.	Quantity in 1904.	Rate.	Totals.	QUANTITIES.	
				Increase.	Decrease.
		\$ cts.	\$ cts.		
Salmon, fresh Lb.	235,118	0 20	47,023 60		72,697
" preserved in cans. "		0 15			2,050
" smoked "	2,571	0 20	514 20		444
Herring, salted Brls.	20,760	4 50	93,420 00	4,912	
" fresh Lb.	1,530,375	0 01	15,303 75		195,627
" smoked "	293,000	0 02	5,860 00	152,000	
Mackerel, fresh "	2,287,990	0 12	274,558 80		2,453,696
" salted Brls.	5,615	15 00	84,225 00		22,404
Lobsters, preserved in cans. Lb.	2,060,676	0 25	515,169 00		1,024,808
" fresh in shell Cwt.	15,949	7 00	111,643 00	3,398	
Cod, dried "	53,688	4 50	241,596 00		7,617
" tongues and sounds. Brls.	143	10 00	1,430 00		156
Haddock, fresh Lb.	1,762,380	0 03	52,871 40		1,723,800
" dried Cwt.	19,468	3 00	58,404 00	11,484	
" smoked finnan haddies. Lb.	671,150	0 06	40,269 00	360,150	
Hake, dried Cwt.	6,999	2 25	15,747 75	2,455	
" sounds Lb.	5,498	0 50	2,749 00	2,226	
Pollock Cwt.	11,071	2 00	22,142 00		18,443
Halibut Lb.	165,205	0 10	16,520 50		139,575
Trout Lb.	45,500	0 10	4,550 00		15,190
Shad Brls.	644	10 00	6,440 00		1,471
Smelts Lb.	330,156	0 05	16,507 80	107,736	
Alewives or gaspareau. Brls.	2,544	4 00	10,176 00		773
Bass Lb.	10,350	0 10	1,035 00		50
Eels Brls.	1,060	10 00	10,600 00	105	
Oysters "	1,049	5 00	5,245 00	12	
Flounders Lb.	201,850	0 03	6,055 50		81,110
Tom cod "	48,950	0 03	1,468 50	4,550	
Squid Brls.	5,204	4 00	20,816 00		3,793
Coarse or mixed fish. "	2,701	2 00	5,402 00	241	
Fish oil Galls.	91,790	0 30	27,537 00	8,846	
Fish used as bait Brls.	17,096	1 50	25,644 00		9,292
Fish products as manure Brls.	26,351	0 50	13,175 50	3,359	
Seal skins No.	236	1 25	295 00	96	
Clams Brls.	1,944	2 00	3,888 00		333
Total, for 1904			1,758,282 30		
" 1903			2,477,113 00		
Decrease			718,830 70		

RECAPITULATION

SHOWING the Number and Value of Fishing Vessels, Boats, &c., in the District No. 2
Province of **Nova Scotia** for the Year 1904.

Material.	Value.	Total.
	\$	\$
132 vessels, 2,828 tons.....	111,450	
5,696 boats.....	134,130	
22,869 gill-nets, 565,971 fathoms.....	185,991	
388 seines, 41,213 fathoms.....	127,555	
100 trap-nets.....	32,770	
4,057 trawls.....	29,221	
15 weirs.....	1,180	
209 smelt bag-nets.....	2,785	
9,731 hand lines.....	6,003	
		631,085
119 lobster canneries.....	106,750	
284,967 lobster traps.....	178,128	
		284,878
77 freezers and ice houses.....	90,659	
1,723 smoke and fish-houses.....	117,725	
2,459 piers and wharfs.....	137,891	
33 tugs and smacks.....	44,070	
		390,345
Totals.....		1,306,308

SESSIONAL PAPER No. 22

COMPARATIVE STATEMENT of the Value of the Fisheries in each County of District No.
2, **Nova Scotia**, for the Years 1903 and 1904.

County.	Value in 1903.	Value in 1904.	Increase.	Decrease.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Antigonish	80,946 61	74,291 30	.....	6,655 31
Colchester	63,037 75	33,703 25	.....	29,334 50
Cumberland	163,560 10	147,445 50	.....	16,114 60
Guysborough	1,448,253 73	753,483 65	.....	694,770 08
Halifax	576,347 30	606,419 25	30,071 95	.....
Hants	6,565 50	6,855 25	289 75	.....
Pictou	138,401 75	136,084 10	.....	2,317 65
Totals.....	2,477,112 74	1,758,282 30	30,361 70	749,192 14
	1,758,282 30	.....	.....	30,361 70
Net increase.	718,830 44	.....	.....	718,830 44

RETURN showing the Number, Tonnage and Value of Vessels and Boats, nets, &c., Quantity and Value of all Fishing Materials and other Fixtures used in the Fishing Industry in the County of Lunenburg, Province of Nova Scotia, for the Year 1904.

Number.	Districts.	FISHING VESSELS AND BOATS.						FISHING GEAR OR MATERIALS.						KINDS OF FISH.											
		Vessels.			Boats.			Gill Nets.			Seines.			Trap Nets.		Lobster Canned, No.	Salmon, fresh, lb.	Salmon, smoked, lbs.	Herring, salted, brls.	Herring, fresh, lb.	Mackerel, fresh, lb.	Mackerel, salted, brls.	Lobster, preserved in cans, lb.	Number.	
		Number.	Tonnage.	Value.	Total fishermen.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.										Value.
Lunenburg Co.																									
1	Fox Point.	1	16	400	5	120	2500	120	25	6000	1600	25	2500	9800	11	2200	150	30	400	800	500	1			
2	Mill Cove.					200	3200	210	23	9000	2400	23	2500	10000	10	2000	95	25	300	800	700	2			
3	Lodge & N. W. Coast.					70	1000	80	16	3400	370	16	2100	1600	8	1300	100	32	200	250	225	3			
4	Aspotogan.					40	315	35	7	2500	450	7	850	800	2	400	45	20	50	100	42000	4			
5	Baywater & Blandford					170	1600	180	30	8500	1650	30	3000	2200	8	700	55	67	50	57	5				
6	Little and Big Taucowk					305	7500	310	40	9500	2000	40	4400	4000	16	1700	215	1300	200	550	285	6			
7	Deep Cove.					20	140	20	4	1500	200	4	550	500	2	180	20	15	25	15	7				
8	Chester.	1	40	1000	6	150	2500	75	300	13500	3800	20	1500	4000	15	4000	6000	350	25	700	800	25	50000	8	
9	Malone Bay and Martin's River.	24	2000	82000	408	212	3000	230	11	1000	4000	11	1000	2500	5	1250	3000	112	85	500	4000	80	9		
10	Lunenburg Harbour to Kingsbury.	78	7061	429350	1287	665	13800	162	1300	28000	13000	10	1000	2000	40	8000	871	8000	5000	366	21936	10			
11	La Have River District.	47	4192	251520	797	440	12500	104	1500	30000	15000	8	800	1600	10	3000	6300	2200	10000	3000	250	3734	11		
12	Petite Riviere to Port Medway.	6	371	22260	70	112	4600	62	900	18000	9000	4	400	800			7200	500	1000	500	38	12			
Totals.		157	13880	780840	2573	2504	53055	1508	4300	114900	53470	198	20600	40900	127	24730	23180	462	5170	21100	15865	2761	117070		
Values.																	4636	92	23265	211	1904	41415	29417		

KINDS OF FISH AND FISH PRODUCTS.																							
DISTRICTS.	Lobsters, fresh in shell, cwt.	Cod, dried, cwt.	Cod, tongues and sounds, brls.	Haddock, fresh, lbs.	Haddock, dried, cwt.	Haddock, smoked finnan haddies, lb.	Hake, dried, cwt.	Hake, sounds, lb.	Pollock, cwt.	Halibut, lb.	TROUT, lb.	Smelts, lb.	Alwives or gaspau- rean, brls.	Eels, brls.	Clams, brls.	Flounders, lb.	Town cod or frost fish, lb.	Squid, brls.	Coarse and mixed fish, brls.	Fish oil, galls.	Fish as bait, brls.	Fish as manure, lb.	TOTAL VALUE OF ALL FISH.
Lunenburg Co.																							
1 Fox Point.....	10	500	60	100	70	150	140	40	60	50	25	50	12	4	25000	150	25	600	140	350	25	14,062 00	1
2 Mill Cove.....	10	200	2	50	150	35	85	25	25	30000	150	30	900	5	30000	150	400	125	400	20	15,901 75	2	
3 Lodge & N. W. Cove.....	20	120		50	10	41	41	30	30	20000	17	35	63	80	20000	150	80	63	80	63	80	6,154 43	3
4 Aspotogan.....	8	18		20	10	18	16	16	16	12000	15	45	35	40	20000	100	40	35	40	35	40	12,948 10	4
5 Baywater & Blandford.....	13	412		75	137	39	85	85	130	25000	100	83	185	185	25000	100	280	56	185	56	185	5,713 30	5
6 Little and Big Tancook.....	80	3000	3	550	900	380	100	140	2000	41	940	530	1500	280	34,790	500	6	34,790	500	6	34,790	500	6
7 Deep Cove.....	6	400		25	20	8	3	3	3	10000	8	80	20	15	20	15000	20	15	20	15	20	2,454 75	7
8 Chester.....	350	800	7	1000	25	200	20	10	12	400	600	2000	40	10	44000	1250	20	200	140	200	12	24,387 00	8
9 Mahone Bay and Mar- tin's River.....	14	40000	60	2000	75	500	400	200	175	20000	200	1400	15	12	5	9000	500	15	100	8000	700	191,368 50	9
10 Lunenburg Harbour to Kingsbury.....	300	74810	65	5000	6120	1715	115	60000	115	60000			7			3000			40000			397,227 25	10
11 La Have River District.....	125	50072	40	8000	252		160	3500	160	3500		8000	5	15		1500			26000			255,008 50	11
12 Petite Riviere to Port Medway.....	215	3640	10	800	70				20	1000		1000	60	10		800			2000			24,228 00	12
Totals.....	1151	173972	247	17620	7919	700	2796	350	841	93030	900	12400	112	68	15	242000	7450	254	3145	77104	3470	357	
Values.....	11510	782874	2470	529	23757	42	6291	175	1682	9303	90	620	448	680	30	7360	223	1016	6230	23131	5205	179	984,744 10

RETURN showing the Number, Tonnage and Value of Vessels, Boats, Nets, &c., the Quantity and Value in the County of Queen's, Province of Nova Scotia, for the Year 1904.

Number.	Districts.	FISHING VESSEL AND BOATS.						FISHING GEAR OR MATERIALS.				LOBSTER.		KINDS OF FISH.						Number.	
		Vessels.			Boats.			Gill Nets.				Caneries.		KINDS OF FISH.							
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Value.	Salmon, fresh, lb.	Salmon, smoked, lb.	Herring, salted, brls.	Herring, fresh, lb.	Herring, smoked, lb.	Mackerel, fresh, lb.		Mackerel, salted, brls.
<i>Queen's Co.</i>																					
1	Port Medway	122	6750	23	82	2775	200	256	5000	2215	..	..	..	5850	480	425	..	..	..	1
2	Mill Village	..	..	..	22	160	30	30	670	120	..	..	..	8620	1375	..	..	..	..	2
3	Greenfield	..	..	..	15	150	30	..	..	..	..	..	..	2380	425	..	..	..	..	3
4	Liverpool, Brooklyn and Gull Island	..	..	..	34	500	47	80	1600	400	1	2000	..	800	..	150	1000	1000	8000	350
5	Western Head, Black Pt. and Moose Harbour	..	..	..	72	1600	75	400	8000	2000	..	..	..	50	..	230	300	..	600	325
6	White and Hunts Pt. and Summer-ville	1	150	4	40	700	45	150	3000	750	1	200	..	..	..	300	6000	2000	700	25
7	Port Monton	3	500	11	93	1700	75	175	1500	750	4	1800	..	..	..	900	6000	..	..	25
8	Port John and Port Hebert	..	..	..	60	1100	30	1100	2200	550	5	350	..	..	..	25	..	..	..	..
9	Eagle Head and Beach Meadows	..	..	..	20	325	30	40	200	200	..	..	..	200	..	..	..	..	..	9
10	Berlin, Milton and Kempt	..	..	..	52	780	38	100	2000	500	1	300	..	2100	..	60	..	..	..	10
Totals		6	172	38	490	9490	600	1341	24170	7485	9	4650	..	20000	2280	2126	7300	3000	9300	725	
Values		..	..	..	..	..	..	..	..	..	..	..	..	4000	456	9567	73	60	1116	10875

DISTRICTS.	KINDS OF FISH.																			TOTAL VALUE OF ALL FISH.	
	Lobsters, preserved in cans, lb.	Lobsters, fresh in shell, cwt.	Cod, dried, cwt.	Cod, tongues and sounds, brls.	Haddock, fresh, lb.	Haddock, dried, cwt.	Hake, dried, cwt.	Pollock, cwt.	Halibut, lb.	Trout, lb.	Shad, brls.	Smelts, lb.	Alwives or Gas- pereau, brls.	Peels, brls.	Clams, brls.	Flounders, lb.	Squid, brls.	Coarse and mixed fish, brls.	Fish oil, galls.		Fish as bait, brls.
Queen's Co.																					
1 Port Medway			27-26			55	50	45				5480	450	34				1480			18,644 00
2 Mill Village										4050	21	3300	1040	14							1
3 Greenfield										3000			890	13							2
4 Liverpool, Brooklyn and Gull Island	36729	409	625	2	960	57	16	25	1200	200			15			500	5	7	400		3
5 Western Head, Black Pt. and Moose Harbour		100	80			40		14	500								200	3	4	20	4
6 White and Hants Pt. and Summer- ville		800	447	400	58			300	300	100						500	4	6	60	20	5
7 Port Monton	12900	950	459	2	300	30		10	700	290						17,5000	20	15	80	20	6
8 Port Joli and Port Hebert	96860	300	1000	130	25				200	400		1000	30	20		25,5000	5	6	20	180	7
9 Eagle Head and Beach Meadows	16800		60	400	28			900	150							1000	4	10	20	30	8
10 Berlin, Milton and Kempt	13200	275	45	300	400			500	400	2500			25			1200	1	5	10	10	9
Totals	104880	2831	4536	4	2510	613	66	1794	3300	10600	21	9780	2450	81	427400	42	53	1680	640		10
Values	41220	28340	20412	40	77	2079	148	3588	330	1060	210	489	9800	810	84	222	168	106	504	990	136,824 30

RETURN showing the Number, Tonnage and Value of Vessels, Boats, Nets, &c., and the Kinds of Fish, &c.—Nova Scotia—*Con.*

DISTRICTS.	FISHING VESSELS AND BOATS.					FISHING GEAR OR MATERIALS.					KINDS OF FISH.						
	Vessels.		Boats.			Gill Nets.		Trap Nets.		Trawls.	Lobster canneries, No.	Salmon, fresh, lb.	Herring, salted, brls.	Herring, fresh, lb.	Herring, smoked, lb.	Mackerel, fresh, lb.	Mackerel, salted, brls.
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Value.								
<i>Shelburne Co.</i>																	
1 Woods Harbour	40	2000	20	150	7000	185	635	20000	1900	1	1500	2000	..
2 Slag Harbour and Bear Point.	3	60	1600	25	82	4340	87	1080	18700	2320	..	..	..	..	100	..
3 Cape Island	120	3000	40	600	23000	900	5440	95550	10000	6	10000	..	..	..	800	..
4 Barrington.	3	60	3000	25	64	1860	68	430	13000	1200	..	..	..	..	..	..
5 Ports La Tour and Baccaro.	6	165	3100	58	415	7800	425	4380	71600	9300	..	..	..	..	..	..
6 Cape Negro and Island	63	1000	20	148	3160	148	2400	22000	1000	1	1500	..	..	..	250	..
7 Port Clyde.	..	..	..	8	500	8	24	2800	250	..	..	..	..	..	..	..
8 North East Harbour to Port Saxton.	23	83	4500	21	25	700	30	200	6000	1000	..	..	..	..	300	..
9 Black Point to Round Bay.	2	41	1200	12	50	1250	125	650	19500	3250	..	..	..	..	1000	..
10 Roseway and McNutt's Island.	5	34	2000	12	40	2500	100	400	12000	2000	..	..	..	..	400	..
11 Gunning Cove to Birchtown	9	513	27000	110	45	1300	80	200	6000	1000	..	..	..	..	1500	..
12 Shelburne and Sandy Point	..	..	..	40	1000	60	300	9000	1500	..	..	..	..	..	500	..
13 Jordan.	14	594	29400	143	125	2000	250	500	15000	2500	2	500	200	600	1000	..	
14 Lockport.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	400	..
Totals	32	1773	77800	486	1812	56910	17269	329240	40220	10	13500	492	20825	21	6240	7850	76
Values	314	3140	Dories	81	226	942

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RETURNS showing the Kinds and Quantities of Fish and Fish Products in the County of Shelburne, Province of Nova Scotia,
for the Year 1904.

KINDS OF FISH.																										
DISTRICTS.	Lobsters, preserved in cans.	Lobsters, fresh in shell, cwt.	Cod, dried, cwt.	Cod, tongues and sounds, brls.	Haddock, fresh, lb.	Haddock, dried, cwt.	Haddock, smoked, lb.	Hake, dried, cwt.	Pollock, cwt.	Halibut, lb.	Trout, lb.	Smelts, lb.	Alewives or gaspereau, brls.	Belts, brls.	Clams, brls.	Flounders, lb.	Tommy Cod or Frost fish, lb.	Squid, brls.	Coarse and mixed fish, brls.	Fish oil, galls.	Fish as bait, brls.	TOTAL VALUE OF ALL FISH.	Number.			
																								% cts.		
Shelburne Co.																										
1 Woods Harbour	151200	1340	4000		500	100			250	300			35								100	7600	82,080 00	1		
2 Shag Harbour and Bear Pt.	103600	210	2500		950	185			1050	350	250		35								365	1400	45,470 00	2		
3 Cape Island	181052	1700	4000		9000	3000			1700	20000											2600	10000	286,309 00	3		
4 Barrington		140	1000		1200	200			255	400	300		375								100	2500	12,735 80	4		
5 Ports La Tour and B. cecaro.	25300	600	21700		1650	1600	3000		4350	4275	300		180								410	2250	128,702 50	5		
6 Cape Negro and Island	37680	800	28800		1000	1100			1250	500	400		150								650	1600	156,701 60	6		
7 Port Clyde	19584	100	600			30			72	775	500		75									200	10,198 50	7		
8 North East Hrb. to Pt. Saxon		490	1190		4	1000	275	114	30	880	300	500	900								175	15	22,706 00	8		
9 Black Point to Round Bay		1035	440		2	700	245	18	30	800	300	500	55								2	10	200	18,155 50	9	
10 Roseway and McNutt's Id.		600	300		1	500	245		35	450	300	600	55								2	10	175	10,076 50	10	
11 Gunning Cove to Brechtown		300	135		1	1000	72	7	14	450	500	100	75								2	100	20	5,634 75	11	
12 Shelburne and Sandy Pt.	27360	475	5400		4	4500	500	90	240	475	3000	600	225								3	7	1325	100	44,296 00	12
13 Jordan		238	225		1	1500	250	300	27	350	1000	2000	20								3	150	25	5,944 00	13	
14 Lockeport	98496	4500	7000		10	2970	975	102	350	4700	1000	500	50								10	8	1200	250	112,493 60	14
Totals.	621562	12580	113240	23	26470	8722	3900	331	9638	34855	9850	4200	2176	69	975	9000	7760	25	35	7610	26260					
Values	155390	125800	568805	230	794	26166	234	745	19886	3485	985	215	8704	690	1950	270	233	100	70	2283	39390	941,173 15				

RETURN showing the Number, Tonnage and Value of Vessels, Boats, Nets, &c., and the Kinds of Fish, &c.—Nova Scotia—Con.

Number.	FISHING VESSELS AND BOATS.						FISHING GEAR OR MATERIALS.						KINDS OF FISH.									
	Vessels.			Boats.			Gill Nets.			Trawls.			LOBSTER.			Herring, fresh, lb.	Herring, smoked, lb.	Mackerel, fresh, lb.	Lobsters, preserved in cans, lb.	Lobsters, fresh in shell, cwt.	Number.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Value.	Cammeries									
													Number.	Value.								
Yarmouth Co.																						
1 Yarmouth.....	7	408	16353	97	75	1815	150	500	10000	5000	256	2530	2	1530	2	2000	163800	750	12000	146400	31892	1
2 Port Maitland.....	8	139	4900	45	23	260	46	94	1880	940	11	550	1	500	1	2000	27200	350	20000	33600	.....	2
3 Sandford.....	1	10	200	3	27	540	48	280	5600	2800	10	500	.....	.....	.....	2000	69000	400	25000	.....	.....	3
4 Arcadia.....	2	10	200	3	24	480	48	52	1040	520	.....	.....	2	800	.....	2000	148000	.....	.....	100128	.....	4
5 Pinckney Point.....	1	10	200	3	33	660	66	100	2000	1000	.....	.....	.....	.....	.....	22500	.....	.....	.....	.....	.....	5
6 Cowan Hill.....	21	420	.....	.....	21	420	42	59	1180	590	.....	.....	.....	.....	.....	5000	5000	1500	.....	.....	.....	6
7 Tusket.....	1	85	2000	8	79	1580	158	190	3800	1900	19	190	4	2530	4	5000	20400	1500	.....	.....	.....	7
8 Tusket Wedge.....	19	889	56500	233	132	2640	264	176	3520	1760	.....	.....	4	3040	.....	500	500	81400	.....	441168	.....	8
9 Pubnico.....	3	37	2500	6	25	500	50	120	2400	1200	.....	.....	1	1000	.....	1030	62300	.....	321000	.....	.....	9
10 Argyle.....	11	.....	.....	.....	49	735	98	164	3280	1640	.....	.....	.....	.....	.....	14700	.....	.....	79872	.....	.....	10
11 Red Brook.....	.....	.....	.....	.....	21	315	21	101	2020	1010	.....	.....	.....	.....	.....	1600	.....	.....	.....	.....	.....	11
12 Salmon River.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12
Totals.....	39	1568	82450	392	780	12655	1262	3646	72920	36460	296	3800	14	9400	14	14100	615800	3000	57000	1122768	31892
Values.....	2802	6158	60	6840	280652	318920

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RETURN showing the Kinds and Quantities of Fish and Fish Products in the County of Yarmouth, &c.—Nova Scotia.—Con

DISTRICTS.	KINDS OF FISH.											FISH PRODUCT.			TOTAL VALUE OF ALL FISH.	Number.			
	Cod, dried, cwt.	Cod, tongues and sounds, brls.	Haddock, fresh, lb.	Haddock, smoked fin- nan haddies, lbs.	Pollock, cwt.	Hallbut, lb.	Trout, lb.	Shad, brls.	Smelts, lb.	Alwives or gaspereau, brls.	Eels, brls.	Clams, brls.	Tom Cod or frost fish, lb.	Squid, brls.			Coarse and mixed fish, brls.	Fish oil, galls.	Fish as bait, brls.
Yarmouth Co.																			
1 Yarmouth.....	7762	25	157400	4000	586	49730	500	.....	18000	.....	.....	32	.....	16	175	3500	300	160	408,307 00
2 Port Matland.....	2614	10	188300	17300	2064	7300	.....	.....	11000	.....	.....	13	.....	12	1500	1800	76	550	39,011 00
3 Sandford.....	712	5	44300	3800	27	1670	.....	.....	900	.....	.....	15	.....	.....	400	300	74	260	10,483 00
4 Arcadia.....	610	.....	20400	.....	491	200	1200	.....	3300	6	24	22	1000	.....	5	90	.....	.....	31,531 00
5 Pine Cove Point.....	241	.....	21200	.....	6	900	.....	.....	.....	.....	16	38	.....	.....	25	100	25	.....	2,425 00
6 Conneau Hill.....	320	.....	7000	.....	280	.....	10000	.....	.....	.....	10	26	.....	.....	5	20	25	.....	2,564 00
7 Tusket.....	.....	.....	.....	.....	.....	.....	.....	120	11000	3400	55	25	8500	.....	25	95	400	.....	19,050 00
8 Tusket Wedge.....	807	6	30440	.....	205	.....	.....	.....	1000	3400	45	44	3300	45	400	1200	100	.....	117,947 70
9 Pubnico.....	2966	25	721260	.....	3200	21800	.....	.....	12000	36	.....	65	5300	65	50	3200	225	.....	268,734 30
10 Argyle.....	188	5	25700	.....	27	3750	1000	.....	900	120	25	30	1800	.....	.....	.....	165	.....	23,357 50
11 Eel Brook.....	.....	.....	.....	.....	.....	.....	1000	.....	1300	600	55	26	.....	.....	.....	.....	100	.....	3,317 00
12 Salmon River.....	.....	.....	.....	.....	.....	.....	6000	.....	1100	600	40	20	3000	.....	.....	.....	100	.....	4,415 00
Totals.....	34220	76	1213800	27100	6896	85850	13700	120	50000	4832	225	356	23100	148	2600	10285	1590	970	.....
Values.....	153990	760	36414	1626	13792	8595	1970	1200	2530	19408	2250	712	683	592	5200	3085	2385	485	871,177 50

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RETURN showing the Quantity and Value of Fish, &c.—Nova Scotia—Continued.

Number.	District.	KINDS OF FISH.														FISH PRODUCTS.				TOTAL VALUE OF ALL FISH.	Number.		
		Cod, dried, cwt.	Cod, tongues and sound, brls.	Haddock, fresh, lb.	Haddock, dried, cwt.	Smoked herring had- dies, lb.	Hake, dried, cwt.	Hake, sounds, lb.	Pollock, cwt.	Halibut, lb.	Trout, lb.	Shad, brls.	Smelts, lb.	Clams, brls.	Flounders, lb.	Tom cod or frost fish, lbs.	Squid, brls.	Coarse and mixed fish, brls.	Fish oil, galls.			Fish as bait, brls.	Fish as manure, brls.
1	Digby.	8038	20	200000	2000	920000	22350	6350	4150	120000	2500	4	3780	5000	500	100	1100	17080	6218	792	3872	352,503 95	
2	Bay View and Culloden.	739	16	118350	823	...	2316	1350	522	3335	30	...	...	...	980	...	110	400	840	710	618	26,958 00
3	Gulliver's Cove to Water- ford	1773	16	131400	1780	...	3075	1050	575	2150	50	5	3000	...	501400	...	910	1050	1268	378	1250	43,449 45	
4	Centreville.	3648	10	40000	78	350000	6000	3000	542	30000	5	550	100	650	500	4320	500	1800	84,668 00
5	Sandy & Mink's Coves.	910	11	25500	1100	32450	4273	1700	323	2325	20	...	1000	...	35	940	...	12	500	1368	423	650	35,735 85
6	Little River.	1213	8	135400	2000	90000	6280	4000	91	3500	12	500	1368	400	1800	51,033 10
7	Whales Cove to East Ferry	1541	20	243700	1186	...	4930	4200	838	3200	30	...	...	...	770	100	348	2550	2310	1400	2823	60,280 30
8	Tiverton & Central Grove	9710	83	84200	1888	133000	17779	5400	3255	2638	135	...	...	...	800	...	288	7008	9040	1507	2923	138,449 00
9	Freeport.	18860	24	232500	4350	...	3319	3000	10350	88305	30	...	...	...	50	530	30	4000	7200	875	3887	171,570 15
10	Westport.	10350	25	68000	3000	5000	6220	500	25340	140537	28	...	...	...	...	2500	500	4334	10800	900	4350	173,418 50
11	Smiths Cove & Brighton.	128	2	7370	...	...	224	100	45	25	55	19	2360	...	180	1000	9	420	60	430	585	12,877 60
12	Plymouth to Weymouth.	613	10	103400	...	...	60	55	40	50	178	6	40000	...	2035	460	2	48	120	680	420	17,752 00
13	Belliveau & Grosses Coq.	260	...	148000	...	...	80	...	480	...	...	...	...	...	1600	...	...	...	40	700	...	13,062 00
14	Church Point and Little Brook.	150	...	25000	...	...	...	...	210	...	...	...	...	...	150	...	...	...	...	120	...	3,765 00
15	Comeauville and Saulnier ville.	315	...	27400	...	...	...	...	275	...	...	...	...	...	120	...	...	...	...	60	...	12,196 50
16	Metaghian & River.	485	...	33500	...	...	...	...	270	...	...	...	...	...	100	...	...	...	...	110	...	11,535 50
17	Salmon River to Cape St. Mary's.	568	...	41800	...	...	...	...	1518	...	...	...	...	...	100	...	...	...	...	130	...	13,091 00
Totals.		59301	245	1065520	18205	1530450	78106	35805	49203	396165	3056	34	50140	9425	9560	27800	4099	39010	45084	10115	24978	...	
Values.		266854	2450	49906	54615	91827	175738	17903	98406	39616	306	340	2507	18850	287	834	16396	78020	13525	15173	12489	1,242,407 10	

RETURN showing the Number, Tonnage and Value of Vessels, Boats, Nets, &c., the Quantity and Fishing Industry in the County of Annapolis County, Province of Nova Scotia, for the year 1904.

Number.	DISTRICTS.	FISHING VESSELS AND BOATS.						FISHING GEAR OR MATERIALS.										LOBSTER CAN-SERIES.		
		Vessels.			Boats.			Gill Nets.			Seines.			Trap Nets.		Trawls.		Smelt Nets.		
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
<i>Annapolis Co.</i>																				
1	Margaretsville.	3	50	1500	15	8	200	12	20	600	200	...	...	...	20	100	...	...	...
2	Port George.	3	40	1300	15	18	350	20	30	900	300	...	...	...	30	150	...	...	...
3	Port Lorne.	1	11	200	4	12	250	20	25	800	300	...	...	...	40	200	...	...	...
4	Hampton.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5	Pinney Cove.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6	Parker's Cove.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7	Hillsburn.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8	Litchfield and Thomas Cove.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9	Victoria Beach	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10	Clements port and Annapolis.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11	Lequille and Round Hill R's. and Lakes.	
Totals		14	250	7100	64	152	3125	221	385	7700	3000	410	2050	

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RETURN showing the kinds and Quantities of Fish and Fish Products in the County of Annapolis, Province of Nova Scotia for the year 1904.

Number.	Districts.	KINDS OF FISH.												FISH PRODUCTS.			TOTAL VALUE OF ALL FISH.	Number.	
		Salmon, fresh, lb.	Herring, salted, brls.	Herring, fresh, lb.	Lobsters, fresh in shell, cwt.	Cod, dried, cwt.	Cod, tongues and sounds, brls.	Haddock, fresh, lb.	Haddock, dried, cwt.	Hake, dried, cwt.	Pollock, cwt.	Halibut, lb.	Trout, lb.	Shad, brls.	Fish oil, galls.	Fish as bait, brls.			Fish as manure, brls.
<i>Annapolis Co.</i>																			
1	Margaretsville	2000	500	1000	20	100	2000	120	500	200	1000	100	20	50	5,460 00				
2	Port George	1800	400	1500	25	150	2500	200	600	150	1800	150	25	60	5,512 50				
3	Port Lorne		500	1800	30	200	3000	300	700	175	2000	200	30	65	6,325 50				
4	Hampton			1200	40	250	4000	400	700	200	1000	200	32	50	6,668 00				
5	Phinney Cove		300	1000	37	300	3000	450	650	800	800	800	30	35	7,822 50				
6	Parker's Cove		200	2000	45	400	10000	1000	2000	500	500	300	45	66	13,060 50				
7	Hillsburn		200	1000	50	600	6000	800	1500	700	300	300	60	25	11,729 50				
8	Litchfield and Thomas Cove		100	500	55	500	17000	1700	3200	1100	200	200	100	65	18,632 50				
9	Victoria Beach				60	500	25000	1000	3000	1000	500	500	200	80	15,640 00				
10	Clements Port and Annapolis		500			100	5000	100	100	75		200	60	10	1,948 00				
11	Lequille and Round Hill R's and Lakes		800									850			245 00				
Totals.		5100	2750	10000	362	3100	77500	6070	12750	4900	7600	1050	1050	50	2285	442	506	.....
Values.		1020	12375	100	3620	13950	220	18210	28687	9800	700	105	105	500	686	663	253	93,274 00	

RETURN showing the Number, Tonnage and Value of Vessels and Boats and the Quantity and Value of all Fishing Materials, &c.,
County of **King's**, Province of **Nova Scotia**, for the year 1904.

Districts.	Fishing Vessels and Boats.						Fishing Gear or Materials.						Kinds of Fish.						
	Vessels.			Boats.			Gill Nets.			Seines.			Weirs.		Salmon, fresh, lb.	Herring, salted, brls.	Herring, fresh, lb.	Herring, smoked, lb.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.					Value.
King's Co.																			
1 Avonport and vicinity.....	2	40	300	6	10	150	10	10	1400	600			2360	1000	2	450	300	8000	1620
2 Stars Pt. and Kingsport.....	1	10	300	2	3	110	8	5	40	20			2200	475	3	600	450	8000	300
3 Medford and Blomidon.....						30	6	1	20	20			3635	1700	3	700	4500	15000	
4 Scotts Bay and Wells Cove.....						13	380	27	30	4300	230	3	3635	1700	3	700	4500	108	
5 Baxter Harbour.....						23	325	35	40	1200	350	2	300	200	1	100	100	26000	
6 Sheffield Vault and Race Point.....						4	48	6					355	325	2	500	8500	65	
7 Halls Harbour.....	2	30	300	6	20	400	40	30	750	350	2	300	200	2	750	15000	600	50000	
8 Hunting Point and Chipman Brook.....						14	240	24	14	410	150	2	350	250	2	500	6500	75	
9 Canada Creek.....	2	25	275	6	10	275	15	10	300	100			400	300	3	800	8000	30	
10 Harbourville.....	2	40	400	6	6	60	12	14	140	160	3	400	225	3	750	3500	50	14000	
11 Ogilvie Wharf to county line.....						14	260	19	19	760	295	6	450	350	6	1000	8500	50	
Totals.....	9	145	1575	26	123	2278	202	170	9320	2175	27	10810	5025	27	58870	1102	199500	73000	
Values.....																11774	4359	1995	1460

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RETURN showing the Kinds and Quantities of Fish and Fish Products, &c.—Nova Scotia—Continued.

Number.	DISTRICTS.	KINDS OF FISH.												Fish Products.			TOTAL VALUE OF ALL FISH.	Number.		
		Macquerel, fresh, lb.	Lobsters, fresh in shell, cwt.	Cod, dried, cwt.	Haddock, fresh, lb.	Haddock, dried, cwt.	Haddock, smoked, finnan haddies, lb.	Hake, dried, cwt.	Pollock, cwt.	Halibut, lb.	Trout, lb.	Shad, brls.	Alewives or gaspe- rean, brls.	Clams, brls.	Coarse and mixed fish, brls.	Fish oil, galls.			Fish as bait, brls.	Fish as manure, brls.
1	Avonport and vicinity			62					3		2200	18	47					250	1,322 00	1
2	Stars Pt. and Kingsport			25	1300				37	300		39	9					25	2,382 00	2
3	Medford and Blomidon			28	1500				7	550		25	7	1000				23	3,364 25	3
4	Medford and Blomidon	850	124						4	450		40	10		1700	25	505	2000	9,812 00	4
5	Scotts Bay and Wells Cove	200	4		6000	25			16	700			8		4000	14	300	1000	11,496 20	5
6	Baxter Harbour	750	60		1100				20			1	6		400		105		4,049 00	6
7	Sheffield Vault and Race Point	1000	150		50000	200	600		60	150	1000	1	10		7000	16	170	3000	28,025 80	7
8	Halls Harbour	1250	202		28700	22			12	900		1	21		2700		410	1000	14,464 50	8
9	Hunting Point and Chipman Brook	800	100		7000	10			5	500		1	8		1000		300	700	7,174 25	9
10	Canada Creek	900	65		3000	10			8	400			12		1000		100	500	4,824 00	10
11	Harbourville	950	105		2700	8			10	208	3000		11		1050		155	850	7,260 50	11
	Ogilvie Wharf to county line			87						700										
	Totals	6700	810	1130	105800	325	600	122	1625	4600	5200	128	149	1000	19933	55	2093	9300		
	Values	804	8100	5085	3174	975	36	274	3250	460	520	1280	596	2000	38866	16	3140	4650	94,414 50	

RECAPITULATION

Of the Yield and Value of the Fisheries in District No. 3, Province of Nova Scotia, for the Year 1904.

Kinds of Fish.	Quantity.	Rate.	Value.	Total Value.
		\$ cts.	\$ cts.	\$ cts.
Salmon, fresh..... lb.	128,960	0 20	25,792 00	
" smoked..... "	2,742	0 20	548 40	26,340 40
Herring, salted..... brls.	21,384	4 50	96,228 00	
" fresh..... lb.	2,688,100	0 01	26,881 00	
" smoked..... "	790,500	0 02	15,810 00	138,919 00
Mackerel, fresh..... "	101,540	0 12	12,184 80	
" salted..... brls.	3,562	15 00	53,430 00	65,614 80
Lobsters, canned..... lb.	2,148,456	0 25	537,114 00	
" fresh in shell..... cwt.	71,361	10 00	713,610 00	1,250,724 00
Cod, dried..... cwt.	389,549	4 50	1,752,970 50	
" tongues and sounds..... brls.	617	10 00	6,170 00	1,759,140 50
Haddock, fresh..... lb.	3,109,220	0 03	93,276 60	
" dried..... cwt.	41,934	3 00	125,802 00	
" smoked (finnan haddies)..... lb.	1,562,750	0 06	93,765 00	312,843 60
Hake, dried..... cwt.	94,171	2 25	211,884 75	
" sounds..... lb.	36,155	0 50	18,077 50	229,962 25
Pollock..... cwt.	74,952	2 00		149,904 00
Halibut..... lb.	625,500	0 10		62,550 00
Trout..... "	50,356	0 10		5,035 60
Shad..... brls.	353	10 00		3,530 00
Smelts..... lb.	127,220	0 05		6,361 00
Alewives..... brls.	9,739	4 00		38,956 00
Eels..... brls.	443	10 00		4,430 00
Flounders..... lb.	267,960	0 03		8,038 80
Tom cod..... "	66,110	0 03		1,983 30
Squid..... brls.	4,568	4 00		18,272 00
Coarse and mixed fish..... "	64,776	2 00		129,552 00
Clams..... "	11,813	2 00		23,626 00
Fish oil..... galls.	144,103	0 30		43,230 90
Fish as bait..... brls.	44,630	1 50		66,945 00
Fish as fertilizer..... "	36,111	0 50		18,055 50
Total for 1904.....				4,364,014 65
" 1903.....				4,247,997 65
Increase.....				116,017 00

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RECAPITULATION

Of the Value of Fishing Vessels, Nets, &c., in District No. 3, Nova Scotia, for the Year 1904.

Materials.	Value.	Total.
	\$	\$
330 fishing vessels (19,248 tons).....	1,013,835	
6,885 " boats.....	165,103	
314 " dories.....	3,140	
28,076 gill-nets (625,515 fathoms).....	148,661	
276 seines (35,200 fathoms).....	55,200	
144 trap-nets.....	56,330	
3,754 trawls.....	76,710	
79 weirs.....	14,070	
25 smelt-nets.....	770	
17,496 hand lines.....	13,029	
60 lobster canneries.....	42,600	1,546,848
234,139 " traps.....	221,649	264,249
189 freezers and ice houses.....	32,155	
1,550 smoke and fish houses.....	94,818	
601 fishing piers and wharfs.....	190,415	
115 fishing tugs and snacks.....	83,600	
		400,988
Total.....		2,212,685

Number of persons employed in the fisheries of the same district, 1904 :

Men in fishing vessels.....	4,074
" boats.....	7,831
Persons in lobster canneries.....	1,368
Total.....	13,273

RECAPITULATION

Showing the Number, Tonnage and Value of Vessels and Boats and the Quantity and Value of Fishing Materials, &c., in the Fishing Industry in the Province of Nova Scotia, for the Year 1904.

Number.	COUNTIES.	FISHING VESSELS AND BOATS.				FISHING GEAR OR MATERIALS.												
		Vessels.		Boats.		Gill Nets.			Seines.		Trap Nets.		Trawls.					
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Value.	Number.	Value.			
<i>District No. 1</i>																		
1	Richmond	62	1442	25175	375	1166	21070	2027	10210	264460	78230	3	300	950	837	5000	1	5000
2	Cape Breton	20	326	10550	95	450	9895	873	2968	54410	18819				697	3644	2	3644
3	Victoria	2	90	1200	9	579	12503	978	1480	39200	14648				310	2403	3	2403
4	Inverness	27	1620	9050	145	539	11526	1988	1410	33185	17060				456	2708	5	2708
<i>District No. 2</i>																		
5	Cumberland	2	27	550	8	287	6212	419	639	16825	3752				720	1540	5	1540
6	Colchester					198	3170	352	300	14750	3150				7	190	6	190
7	Pictou					324	8991	356	324	11530	4330				38	232	7	232
8	Antigonish	1	18	200	3	210	2808	248	627	12782	2056				35	5295	8	5295
9	Chesborough	61	1126	61450	300	1898	69675	1933	12761	258624	124240	23	2080	2520	2185	20053	9	20053
10	Halifax	68	1657	49250	416	2686	41864	2864	8116	240970	45458	365	39133	125035	16	3475	959	5584
11	Hants					93	1410	100	102	10490	2105				11			
<i>District No. 3</i>																		
12	Lanenburg	157	13680	780840	2573	2504	53655	1598	4300	144900	53470	198	20600	40700	127	24730	814	33900
13	Queen's	6	172	7400	38	490	9790	600	1341	24170	7485	11	1110	3500	1	600	20	6013
14	Shelburne	52	1773	77800	486	1842	56910	2566	17539	329240	40220	1	180	800	10	13500	492	20851
15	Yarmouth	39	1568	82450	392	780	12655	1262	3646	72920	36460				4	16000	296	38001
16	Digby	53	1660	56670	495	994	27200	1382	965	37295	5851	39	2450	5175	2	1500	1679	34165
17	Annapolis	14	250	7100	64	152	3125	221	385	7760	3000						410	20501
18	King's	9	145	1575	26	123	2278	292	170	9320	2175	27	10810	5025			43	6501
Totals		573	25554	1171260	5485	15315	354317	18069	66122	1582741	403429	667	76713	183705	248	99940	10111	119686

RECAPITULATION

Showing the Number, the Quantity and Value of Fishing Materials, &c.—Continued.

Number.	COUNTIES.	FISHING GEAR OR MATERIALS.				LOBSTER PLANT.				OTHER FIXTURES USED IN FISHERIES.										
		Weirs.		Smelt Nets.		Hand Lines.		Canneries.		Traps.		Freezers and Icehouses.		Smoke and Fishhouses.		Piers and Wharfs.		Tugs, Steamers and Smacks.		
		Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	
District No. 1.																				
1	Richmond	16	635	5001	2532	11	12050	39900	20050	337	20050	847	19180	140	8012	20	3225	1	22	
2	Cape Breton	1	1388	1388	1161	12	16800	28890	13887	315	13887	177	3255	143	12514	18	5410	3	3	
3	Victoria	1	5	1921	1854	17	5355	14256	7129	216	7129	12	4050	134	3526	40	6816	4	670	
4	Inverness	14	300	2290	3261	18	8795	40400	21035	374	21035	166	4842	81	45987	31	3625	4	4	
District No. 2.																				
5	Cumberland	1	250	172	1775	124	87	40	23575	52265	20195	418	.....	44	2884	.....	.....	5	5
6	Colchester	2	400	8	80	9	21	2	600	4000	2000	29	4	250	18	900	.....	6	6
7	Pictou	7	285	35	35	22	29050	44229	31300	505	20	319	3	3	60	3	95	.....	2
8	Antigonish	1	15	272	130	6	6500	21300	11300	159	3	3500	104	1178	1	1000	3	350	8	
9	Chesborough	1	30	13	343	5159	3751	29	30000	85160	68018	333	35	82875	673	75015	214	105430	9	
10	Halifax	8	287	4132	1979	20	17025	77783	36906	332	15	3715	876	37638	2241	31306	22	24045	10	
11	Hants	5	500	.....	.....	.....	.....	.....	.....	.....	.....	5	50	.....	.....	.....	.....	11	11
District No. 3.																				
12	Lanenburg	.....	.....	3900	2252	6	2290	20220	10155	310	5	1600	351	24050	255	11835	13	1300	12
13	Queens	.....	.....	905	473	9	4650	18900	17600	85	48	1930	259	6430	24	2630	15	4700	12
14	Shelburne	.....	.....	7	285	5775	5400	21	10000	113450	113450	205	13	6750	385	23640	173	27350	22
15	Yarmouth	7	1000	4	60	3901	1353	14	9400	40848	40848	247	30	14500	105	9050	41	57600	50	
16	Digby	25	5370	14	425	1379	1944	10	10350	34029	34029	521	48	5860	222	24988	108	91000	15	
17	Amayopolis	20	1700	.....	425	396	.....	.....	5500	4375	.....	17	850	122	2455	.....	.....	.....	17
18	King's	27	5800	.....	611	.....	611	.....	.....	1192	1192	.....	22	665	105	3735	.....	.....	18
Totals.		108	15550	251	4195	38287	27840	237	192350	643552	461888	4406	299	136979	4597	249146	3464	401636	221	140600

Showing the Kinds and Quantities of Fish and Fish Products in the Province of Nova Scotia, for the Year 1904.

Number.	COUNTIES.	KINDS OF FISH.																	Number.	
		Salmon, fresh, lb.	Salmon, preserved in cans, lb.	Salmon, smoked, lb.	Herring, salted, brls.	Herring, fresh, lb.	Herring, smoked, lb.	Macarel, fresh, lb.	Macarel, salted, brls.	Lobsters, preserved in cans, lb.	Lobsters, fresh in shell, cwt.	Cod, dried, cwt.	Cod, tongues and sounds, brls.	Haddock, fresh, lb.	Haddock, dried, cwt.	Haddock, smoked, inman haddies, lb.	Hake, dried, cwt.	Hake, sounds, lb.		Pollock, cwt.
		District No. 1.																		
1	Richmond	2640	1920		8167	123600		108400	10311	270152	1283	19410	139	466200	8280	191000	432	170	4538	
2	Cape Breton	16495			6314	106514		43150	795	389866	2912	18680	4	1300	2385		156		1917	
3	Victoria	31253			807	136925		12500	344	216312	70	15986		300	6323		1		1937	
4	Inverness	82880	750		2036	481700		2100	772	272492	938	18663	44	11100	1120	400	1573	260	175	
District No. 2.																				
5	Cumberland	13650		500	580	19100	277000	7200		402216	130	205	10	7300	190		150		310	
6	Colchester	56180				4000				37248		368		3500	39		19		9	
7	Pictou	33100			140	107500		8340		457320		156		10450			80		6	
8	Antigonish	58460			541	141000		27500	76	175816		532		4400	113	150	584	1183	44	
9	Guysborough	29430		950	8379	988275	10000	778650	4787	533832	2069	30140	68	1577380	17238	671000	3612	2540	9452	
10	Halifax	26638			11120	265500		1466300	752	436824	13810	22657	65	156400	1888		2545	1775	1208	
11	Hants	17600				5000						110		3000			9		1511	
District No. 3.																				
12	Lunenburg	23180		462	5170	21100		15865	2761	117670	1151	173972	247	17620	7919	700	2796	350	841	
13	Queens	20000		2280	2126	7300	3000	9300	725	164880	9834	4536	4	2510	693		66		1794	
14	Shelburne	6260			9625	8110	11000	7850	76	621562	12580	113290	23	26470	8722	3900	331		9693	
15	Yarmouth	14100				615800	3000	57000		112768	31892	34220	76	1213840	27100				6896	
16	Digby	1450			1211	1826290	706600	4825		121576	21732	59301	245	1663320	18205	1530450	78106	35805	49293	
17	Antigonish	5100			2750	10000					362	3100	22	77500	6070		12750		4900	
18	King's	58870			1102	199500	73000	6700			810	1130		105800	325	640	122		1625	
Totals		497306	2670	5313	50628	5070214	1083500	2555680	21599	5357454	92513	515526	947	5350500	79510	2425300	42063		94610	

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Showing the Kinds and Quantities of Fish and Fish Products in the Province of Nova Scotia, for the Year 1904.

COUNTIES.		KINDS OF FISH— <i>Con.</i>												Seal skin, No.	TOTAL VALUE OF ALL FISH.	Number.				
Number.		Halibut, lb.	Trout, lb.	Shad, brls.	Smelts, lb.	Alwives or Gaspareau, brls.	Bas, lb.	Eels, brls.	Oyster, brls.	Clams, brls.	Flounders, lb.	Tom Cod or Frost Fish, lb.	Squid, brls.	Coarse and mixed fish, brls.	Fish oil, galls.	Fish as bait, brls.	Fish as manure, brls.		% cts.	Number.
<i>District No. 1.</i>																				
1	Richmond	67250	6350		36600	965		921		328	362000	63000	2184	2767	13485	4456			493,585 00	1
2	Cape Breton	44000	3600	156	7100	228		130	8	86		5200	53	8106	590				270,254 44	2
3	Victoria	25900	1810		7700	31		88	54			3650	438	1361	5171	468		108	178,577 40	3
4	Inverness	8310	2550		3400	64		130	300	10			638	1394	5995	2005	870		222,385 25	4
<i>District No. 2.</i>																				
5	Cumberland	9300	2650	175	205300	614	500	45	743	30	6450	9200		725	105	4387	4600		147,445 50	5
6	Colchester	4000	16200	430	12000	200	9000		175	700					205	30	350		33,703 25	6
7	Pictou		1400		44456	90		199	43	50				20		840	9490		136,084 10	7
8	Antigonish		625	1	3500	11	100	42	83		18900	150	27	381	906	1103	1970		74,251 30	8
9	Guysborough	97630	11200	8	25300	569	250	599		108	12200	15200	4901	1086	77020	8990	5356	126	753,483 65	9
10	Halifax	53475	9825		39900	615		175	3	1014	164300	24400	276	489	13554	1746	4585	110	606,419 25	10
11	Hants		800	30		445	500			40									6,855 25	11
<i>District No. 3.</i>																				
12	Laurenburg	93030	900		12400	112		68		15	242000	7150	254	3145	77104	3470	357		984,744 10	12
13	Queens	3800	10600	21	9780	2450		81		42	7400		42	58	1680	660			136,821 30	13
14	Shelburne	34853	4850		4300	2176		69		975	9000	7700	25	35	7610	26260			941,175 15	14
15	Yarmouth	89500	13700	120	50600	4852		225		356		23100	148	2670	10285	1590	970		871,177 50	15
16	Digby	396165	3656	34	50140					9425	9560	27800	4099	39010	45084	10115	24978		1,242,407 10	16
17	Annapolis	7600	1650	50												2285	442	506	93,274 00	17
18	King's	4600	5200	128		149				1000				19933	75	2003	9390		94,414 50	18
Totals		936165	110166	1153	512176	13571	10350	2772	1411	14181	831810	186910	13085	72999	268150	69245	63332		7,287,099 04	344

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RECAPITULATION

Of the Yield and Value of the Fisheries of the **whole** of **Nova Scotia** for the
Year 1904.

Kinds of Fish.	Quantity.	Rate.	Value.	Total.
		\$ cts.	\$ cts.	\$ cts.
Salmon, fresh. Lb.	497,306	0 20	99,461 20	101,104 30
" preserved. Cans.	2,670	0 15	400 50	
" smoked Lb.	5,313	0 20	1,062 60	
" salted. Brls.	12	15 00	180 00	
Herring, salted Brls.	59,528	4 50	267,876 00	340,248 14
" fresh Lb.	5,070,214	0 01	50,702 14	
" smoked Lb.	1,083,500	0 02	21,670 00	
Mackerel, fresh. Lb.	2,555,680	0 12	306,681 60	630,666 60
" salted. Brls.	21,599	15 00	323,985 00	
Lobsters, preserved in cans. Lb.	5,357,454	0 25	1,339,363 00	2,190,631 50
" in shell Cwt.	92,513		851,268 50	
Cod, dried. Cwt.	519,926	4 50	2,321,667 00	2,331,137 00
" tongues and sounds. Brls.	947	10 00	9,470 00	
Haddock, dried. Cwt.	79,510	3 00	238,530 00	544,563 00
" fresh Lb.	5,350,500	0 03	190,515 00	
" smoked (haddies) Lb.	2,425,300	0 06	145,518 00	
Hake, dried Cwt.	103,332	2 25	232,497 00	253,538 50
" sounds. Lbs.	42,082	0 50	21,041 50	
Pollock Cwt.	94,610	2 00	189,220 00	93,616 50
Halibut Lb.	936,165	0 10	93,616 50	11,016 60
Trout Lb.	110,166	0 10	11,016 60	25,608 80
Smelts Lb.	512,176	0 05	25,608 80	11,530 00
Shad Brls.	1,153	10 00	11,530 00	54,284 00
Alewives Brls.	13,571	4 00	54,284 00	27,720 00
Eels Brls.	2,772	10 00	27,720 00	1,035 00
Bass (sea) Lb.	10,350	0 10	1,035 00	7,055 00
Oysters Brls.	1,411	5 00	7,055 00	28,362 00
Clams Brls.	14,181	2 00	28,362 00	24,954 30
Flounders Lb.	831,810	0 03	24,954 30	5,607 30
Tom cod Lb.	186,910	0 03	5,607 30	52,340 00
Squid Brls.	13,085	4 00	52,340 00	145,998 00
Coarse and mixed fish Brls.	72,999	2 00	145,998 00	80,595 00
Fish oil Galls.	268,650	0 30	80,595 00	103,867 50
" as bait. Brls.	69,245	1 50	103,867 50	31,666 00
" as fertilizer Brls.	63,332	0 50	31,666 00	304 00
Dog-fish Lb.	30,400	0 01	304 00	430 00
Seals No.	344	1 25	430 00	
Total for 1904				7,287,099 04
Total for 1903.				7,841,602 50
Decrease				554,503 46

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REGAPITULATION

OF the Fishing Vessels, Boats, Gear, &c., used in the whole of Nova Scotia for the Year 1904.

Articles.	Value.	Total.
	\$ cts.	\$ cts.
573 Fishing vessels (25,554 tons)	1,171,260 00	
15,315 " boats	354,317 00	
314 " dories	3,140 00	1,528,717 00
66,122 Gill-nets (1,582,741 fathoms)	463,429 00	
667 Seines (76,713) (fathoms)	183,705 00	
248 Trap-nets	96,940 00	
108 Weirs	15,550 00	
251 Smelt-nets	4,195 00	
10,111 Trawls	119,686 00	
38,287 Hand lines	27,840 00	905,345 00
237 Lobster canneries	192,350 00	
643,552 " traps	461,888 00	654,238 00
299 Freezers and ice houses	136,979 00	
4,597 Smoke and fish	249,146 00	
3,464 Fishing piers and wharfs	401,636 00	
221 " tugs and smacks	140,600 00	928,361 00
Total value		4,016,661 00

Statement of the number of men engaged in the Fisheries industry of Nova Scotia, 1904.

Number of men in fishing vessels	5,485
" " " boats	66,122
" persons in lobster canneries	4,406
Total	66,013

APPENDIX No. 4.

NEW BRUNSWICK.

District No. 1, comprising the counties of Charlotte and St. John. *Inspector J. H. Pratt, St. Andrews.*

District No. 2, comprising the counties of Albert, Westmorland, Kent, Northumberland, Gloucester and Restigouche. *Inspector R. A. Chapman, Moncton.*

District No. 3, comprising the counties of Victoria, Carleton, York, Sunbury, Queen's and King's. *Inspector H. E. Harrison, Fredericton.*

DISTRICT No. 1.

REPORT ON THE FISHERIES OF DISTRICT No. 1, NEW BRUNSWICK,
COMPRISING THE COUNTIES OF CHARLOTTE, AND ST. JOHN,
FOR THE YEAR 1904.

ST. JOHN, N.B., January 31, 1905.

To the Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour to submit herewith my annual report on the fisheries of No. 1 District, New Brunswick, for the year 1904, and also inclose synopses of the several fisheries officers, reports, and the complete statistics of the value and catch from the sub-districts.

It is a great pleasure for me to be in a position to report that a large measure of prosperity has been the lot of the fishermen of the district, and in the cases of many their measure has overflowed. Of course, in the cases of those who are old and infirm, or are not enjoying the blessings of good health, their prospects do not look so bright, but as the value of the fisheries for the year show an advance of \$147,565 over that of the year 1903, the fishermen generally have few, if any, regrets regarding the yield during the year just closing.

The total value of this district's product of the sea for the year, has been \$1,515,391, the highest aggregate for any season in the history of the district since I have had the honour to be in control, &c.; in fact, I am of the opinion that this value is the greatest the district has ever attained.

For general information I will give here the value of the catch for the past six seasons which will make more apparent the annual fluctuations.

1899.....	\$ 1,216,394 00
1900.....	6 8,890 00
1901.....	1,285,073 00
1902.....	1,064,126 00
1903.....	1,067,826 00
1904.....	1,515,391 30

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During the latter part of this season the fisheries commissioners appointed by your department visited the various fishing villages in Charlotte county and carefully inquired into the numerous branches of this industry. All the meetings were well attended and great interest was manifested in the proceedings as they confidently hoped that much benefit would result to them from this inquiry. I had the pleasure of conveying the commissioners to many of their places of meeting, finishing with a very interesting visit to Eastport, Maine, where many sardine canneries, and the large fertilizing factory were visited, and considerable evidence regarding the sardine herring industry was obtained.

The prices received by the weir owners for their small herring for sardine purposes fluctuated very considerably during the season, sometimes as little as \$1 being paid for each hogshead of fish, and again, in times of scarcity, as much as \$25 per hogshead would be received, which, we must acknowledge, is an exceedingly good price for a hogshead of herring. Of course, many weirs did not catch a single herring during the entire year, but this fact shows the uncertainties of weir fishing, although in the maritime provinces, outside of Charlotte county, it is generally believed that the owners of a herring weir in Passamaquoddy waters are on the high road to financial prosperity. This is a fact in many instances, but, generally speaking, weir fishing is not as remunerative as it is generally supposed to be.

HERRING.

The Bay of Fundy is generally conceded by all to be the favourite home of the herring, and it is not surprising that this idea has gained such a strong foothold when we notice the large schools of this fish that frequent the waters of Passamaquoddy during certain parts of each year. Both large and small herring struck our shores as in years past, much to the delight of our fishermen who were impatiently awaiting their coming. The prices paid on the average for herring were very good, and a very large quantity to be used as lobster bait went to Nova Scotia during the year when the price was low.

The bulk of the small sardine herring found its way, as usual, to the 59 canneries that were in operation in Washington county, in the adjoining state of Maine, and were converted into 1,420,753 cases of sardines of 100 cans in each case, valued at \$4,378,853, making a total pack for the whole state of Maine of 1,645,657 cases, aggregating a value of \$5,067,798. As fully 75 per cent of the small herring transferred into those so called French sardines in the towns of Eastport and Lubec are the product of the Canadian weir fisheries, it is quite apparent that a serious loss it is to Canada when we are supplying such an enormous volume of raw material to be manufactured in a foreign country. It is not only interesting but very amusing for a Canadian to find that all the above mentioned raw material from Canadian fishing grounds is entered in the United States fishery reports as being the product of the state of Maine fisheries.

As there was comparatively little seining carried on during the past year, or fish taken by any other illegal methods, the 473 weirs under license in St. John and Charlotte counties caught and exported the vast number of 319,970 barrels of herring, being an increase in the catch over that of 1903 of 139,970 barrels. All of this vast catch went to the state of Maine with the exceptions of the lobster bait sent to Nova Scotia and the small quantity required to supply the two small sardine canneries at L'Etang and Blacks harbours.

The lawless ones among our alert fishing population did not attempt any illegal fishing operations till near the close of the fishing season. On Sunday, the 27th of November, at midnight, we arrived among a very large fleet of vessels in the Magaguadavic rivers and completely surprised those who were employed in illegal fishing, and the other vessels that were encouraging the law breakers by purchasing there illegal catch. We succeeded in seizing ten vessels, two of which were United States fish buying steamers, several seines, and many hogsheads of illegally caught fish, and fines from \$100 to \$200 imposed on each vessel. This actions put a sudden stop to illegal fishing operations.

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Small sardine herring and those of a larger size suitable for kippered and bloaters struck into St. John harbour in August, and good hauls were made, but on account of herring being fairly plentiful at the time in Passamaquoddy waters very few sardine buyers went to St. John for any of the catch there.

THE DOG—FISH PEST.

These pests of the ocean whose destructive qualities are dilated on in very strong language by the fishermen from Sandy Hook to the Grand Banks of Newfoundland, are still with us, I regret to report. The manner in which they have reduced the slender income of the line and net fishermen along the Atlantic coast is perfectly incredible, and it is generally conceded that on account of the large size of their schools, no human agencies can reduce their numbers to any appreciable extent. Various ideas have been advanced with a view to the diminution of this pest, many of them useful and quite feasible, but others of them more unique and interesting than useful.

Those who have tested the dog-fish as an article of food speak very highly as to their excellent flavour, and many of them have therefore been canned and put on the market, but of course not under the name of dog fish, and I am informed they secure a ready sale at good prices. Should the market for them increase, together with a small government bounty and the reduction works that are now being established by your department, this formidable obstacle to the welfare of our fishermen will become a source of revenue to them.

COCKLES.

The fishing for cockles, employed about 6 men in the vicinity of St. Andrews the greater part of this summer, and over 300 barrels, worth \$5 per barrel, were gathered. Nearly all this quantity was shipped to Boston, where the fishing fleets use it for bait and find its excellent, much to the surprise of the fishermen using it the dog fish would not bite any hook that was baited with it. This makes very surprising reading, as it has always been supposed that a dog fish would accept any bait that was offered, but from this evidence the statement is erroneous.

CLAMS.

A large increase is noticeable in the taking of clams which are so abundant along our shores, and the demand seems to be increasing, not only for the canned article, but also for those in the shell. The prohibition of the digging and exporting of them by the schooner load, carried on so extensively in former years, will make for the better preservation of this valuable fishery.

COD AND HADDOCK.

A slight decrease will be noticed in the catch of cod, while an increase of over \$20,000 will be noticed in that of the haddock fishery, due principally to the lessening of the dog-fish schools that have been annually frequenting our numerous fishing grounds.

The smoking of haddock into finnan haddies is annually increasing and the consumers are beginning to recognize the fact that this is a most toothsome article of diet. This increase in the curing and canning of haddock and other fish, not only provides more work for our increasing and enterprising population but also provides lucrative employment in their midst, and tends to keep the young men and women at home and not wandering abroad for employment as is the tendency at present.

LOBSTERS.

A decrease of \$18,580 will be noticed in the value of the lobster fishery, which can be attributed to the change in the law prohibiting the catching of any lobsters less

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than $10\frac{1}{2}$ inches in length, and this action naturally closed down the canning factories. This accounts for the decrease above stated. As a general rule the fishermen observed the law very well indeed, throwing back in the water all their catch below the legal size, the demand for the small ones having ceased with the closing of the factories.

This $10\frac{1}{2}$ inches size limit meets with the approval of four fifths of the fishermen of my district, and corresponds with the law in St. John county, and peace will never prevail among the fishermen till this $10\frac{1}{2}$ in-law is made permanent. The price for lobsters during the season would run as high as 35 cents each, which is quite satisfactory to all concerned.

POLLOCK.

An increase of 2,395 quintals will be noticed in the catch of pollock, which I attribute to the increased size of the schools, and also to the fact that a great many pollock were caught in weirs. In fact, it is estimated that nearly 2,500 quintals were caught in this manner. The prices paid the fishermen were much higher than they have received for many years.

SYNOPSIS OF FISHERY OFFICERS REPORTS.

Overseer Billings, of St. Andrews, in his annual report states that the catch was a great deal larger than in the previous year, but the prices paid were much less and will show a decrease in value. Haddock and cod will be about the same as last year. The catch of lobsters was not as large as in 1903, though the prices paid were about the same and the total value would be very little less than the previous one.

There has been a large surplus in the quantity of clams packed in cans with a corresponding increase in value. The gathering of 300 barrels of cockles from the shores by our fishermen marked the commencement of a new branch of our fishing industry. These were worth \$5 per barrel in Boston, and the fishermen of that city who used them declare that this is a bait at which dog fish will not bite.

Many times this season the sardine weirs were full of herring which were not taken out, there being no demand for them, although the price during the season averaged about \$3 per hoghead.

There were 132 weir licenses issued in this district, 76 of which were fished and 29 were not built.

Overseer Fraser, of Grand Manan, states in his annual report that the fisheries in his district will show a very large increase compared with those of 1903. The increase will amount to over \$80,000, which is due to the fact that there was an increase in the amount of medium herring smoked and sardine herring sold to American buyers. There were not many herring smoked for bloaters on account of their small size, and the net herring for packing in barrels, will also show a decrease on account of their small size.

The catch of hake was the best for many years, prices were good and it has been a profitable year for those engaged in this fishery. There was a large increase in the catch of medium sized herring, and also herring salted for lobster bait. Never to my knowledge have all kinds of fish been demanding such good prices as in the past year, and although in former years I reported that 90 per cent of our fish went to foreign markets, now I find more are exported or sold in Canada; leaving only about 75 per cent going to foreign markets.

The assistance of the patrol launch during a few months in the summer has been of immense assistance to me in the performance of my duties, &c, in consequence, the fishery regulations were very well observed.

Overseer Belyea, of St. John City, reports that the year's fisheries have been exceptionally good both as to quality and price, and I am pleased to state that I have had to report fewer fishermen for breaking the regulations than usual.

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The catch of alewives this year was above the average, being very profitable both to weir men and net fishermen, one of the weirs having made a record catch.

Shad fishing was up to the average with an increase in the price. Salmon fishing is acknowledged to be better this year than it has been for the past 15 years, and the price for netted fish has been better than it has been for many years.

A new feature of the fishing industry in St. John harbour this season has been the taking of sardine herring, part of which were taken to Eastport for sardine purposes, but the most of them were sold to Nova Scotia buyers to be used on their coast for lobster bait. Only a few boats are engaged fishing lobsters outside of St. John harbour. They received a good price for their catch. There was a very fair catch of eels which brought a fair price in the American markets.

Overseer Savage, who controls the *Campobello* fisheries, states that all kinds of fish except herring were more plentiful than last year. Prices have also been higher than for many years for all kinds of fish, excepting sardines. Pollock made their appearance about the 25th of May, and the total catch was much larger than in any previous years, owing in part to the large quantities caught in weirs, and it is estimated that about 2,500 quintals were caught in this manner. Prices for pollock were higher than for a great many years. Hake were very plentiful, and the total catch showed an increase over last year. The schools of dog-fish had diminished considerably and the fishermen were engaged in the hake fishery to the end of the season.

Guardian McNeil, of *West Isles*, reports that the fishermen in his district had a very fair season. The herring struck in quite early in the season, and were of a better quality than for a number of years. Fair prices for sardine herring were maintained during the spring months, but on account of the Eastport sardine packers making a combine as to the prices they would pay for herring, our weir owners were compelled to accept a much lower figure during the latter part of the season. I believe it would be of great advantage and a profit to the country if the government would assist by a bonus the canning of sardines in Canada, in the same manner as it assists the farmer in establishing grist mills, butter and cheese factories.

Pollock were very plentiful in *Passamaquoddy* waters, but owing to the fact that they were schooling nearly all the season, the catch will be somewhat smaller than in 1903, but as prices ruled higher the entire season the net profit of this line of fish would be equal to the previous year. The open season for lobsters does not afford the best opportunity for a large catch, as the lobsters migrate to deep waters about January 1, and do not return till May 1. This officer reports the fishermen of his district as being prosperous and happy.

Guardian Catherine, in charge of the *LeTête* district, states that the lobster fishing there has been the best for years, which the fishermen, think could be increased if the law was changed prohibiting the catching of lobsters less than 10½ inches in length. Last winter the net herring returned to these shores the first time in 15 years, and the fishermen had a very successful winter netting, and received good profits. The sardine fishing for the past season has been one of the best for years, the price in the first part of the season was high, although in the latter part the catch was large and the price low, which has made it the best season for years. The catch will be double that of 1903 with a corresponding increase in the value. Hake fishing in the Bay of Fundy has been the best for many years, but the catch will be very small owing to so many fishermen engaging in the sardine fishery. The pollock and haddock fishing has been poor this season, although there has been plenty of pollock, but they would not take the bait, therefore, the statistics of the pollock catch are not as favourable as last season.

Guardian Cawley, of *Beaver* harbour district, reports an increase in the catch of nearly all kinds of fish in his district, and it is a pleasure to report that during the latter part of this year the trawling has been equal to any that has ever been experienced. Lobsters have been bringing a good price, but the supply is limited. Every fisherman in my district is opposed to the present lobster regulations, declaring that the present 9 inch limits will destroy this valuable fishery. The sardine herring have been fairly good in quantity and price, and no doubt, upon the whole better than last year. I am advised by fishermen that the waters at this end of the bay are teeming

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with sardines, something that they had not seen for years at this time of the season. There has been a very great increase in the catch of hake and on account of the price in the West Indies being extra good, our fishermen have reaped a good financial benefit. The extra catch is due to the decrease of the schools of dog-fish. Pollock have been scarcer in my district than for many years and the fishermen can give no explanation therefor.

Fishery Guardian Daley, who controls from Red Head to Point Lepreaux, reports an increase in the catch and value of nearly all the fisheries of his district with the exception of the lobsters and sardine herring. This officer states that all the lobster fishermen regret that the size limit for lobsters was not kept at $10\frac{1}{2}$ inches, and they earnestly trust that your department will soon restore it to that size again. For the short season the lobster fishermen's earnings were \$150 a piece. Hake, cod, pollock and haddock, show an increase in the returns for their catch, with a corresponding increase in their value. The herring during the past winter were very plentiful, and those fishing for them made up in their returns from them what they lost in the sardine herring business.

Fishery Guardian Clark, the newly appointed officer at Dipper harbour, states that the fishing during the past year for all kinds of fish has been remarkably good. Haddock and codfish have been especially plentiful throughout the winter months. There has been a very fair amount of herring and lobsters taken, and in fact I can safely say that it has been the best season for fishing for the last five years.

Guardian Belding, at Chance harbour, reports as follows. The catch of lobsters in the first part of the season was quite low, but during April, May and June, they came on the shores in great numbers, and some of the best catches that had been made for years were made during those months. One man in my districts cleared over \$500 for his own catch alone. The salmon catch was extra good throughout the whole season, astonishing the fishermen, as there had been poor catches for a number of years. One boat caught 60 fish in one night, another 52, for which they received \$1.25 each. Hake were very scarce in the first of the season, and dog-fish raged during the month of July, disappearing almost totally after that month, and the hake coming in shore in their place. The hake fishing was better than it has been for a number of years, a number of boats catching over 75,000 lbs. each for which they were paid at the rate of \$5 per thousand lbs. Sardines were very scarce which I think was owing to no dog-fish being on the coast in August to drive them into Musquash, and they all went by, going into St. John harbour. Haddock fishing only lasted about a month, but it was good while it lasted, and one of the boats caught \$24.50 worth in one day.

Guardian Kersop, who controls the district from Cape Spencer to Tynemonth creek, regrets to report a decrease in the lobster catch, and also a decrease in the average price received by the fishermen. They attribute this shortage in the catch to the hard stormy winter which they believe had the effect of keeping the lobsters off shore. The waters in this vicinity were full of pollock, and although the population in my district is composed chiefly of farmers and lumbermen, the catch of 1,500 quintals of pollock was made by them.

Fishery Officer Skillen, who has control from Tynemonth creek to the Albert county line, states that the catch of lobsters has been a good one, being a total of 16,600, against only half that amount in 1903. Of course, there were a greater number of traps fished than in previous seasons, and the average weight of each lobster was more than the previous year. Several of the large lobsters weighed as much as 15 lbs. each. Spawn lobsters were very plentiful. I have seen three taken from one trap, and all over the district those spawn lobsters were reported very plentiful. Very few cod fish and pollock were caught, the total catch of both kinds not exceeding 1,600 lbs. Salmon seemed as plentiful in the several streams as in other years, and at Martins Head the river was alive with them, and they were in quantity under the Salmon river dam, but not so plentiful as I have seen them in other years. There is no herring fishery in my district at the present time, about ten barrels would be the total catch.

Fishery Guardian Mitchell, who patrols, with an assistant, the Quoddy river, states that he has thoroughly prevented any American boats from poaching in

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Canadian waters. Only about half a catch of haddock was made by the fishermen in Quoddy river, and there was also a decrease in pollock catch in the rivers, owing to their schooling in large quantities in shallow waters and not taking the hook. Some of the weirs in Friar's bay and Harbour DeLute made large hauls of these fish, and their owners have made a good year's work, with not only the pollock, but the catch of sardine herring.

Dog-fish were only with us for a short part of the month of August, although quite plentiful outside of Campobello island. The lobster catch in Quoddy river has been fairly good, the fishermen receiving extremely good prices for their catch. There have been 15 United States fishing schooners that have come to Eastport during the year and have received a supply of bait to prosecute their deep-sea fishing. Only three vessels had come to Eastport in the previous year.

I am sir,

Your obedient servant,

JOHN H. PRATT,

Inspector of Fisheries.

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DISTRICT No. 2.

COMPRISING THE COUNTIES OF ALBERT, WESTMORLAND, KENT,
NORTHUMBERLAND, GLOUCESTER AND RESTIGOUCHE.

MONCTON, February 20, 1905.

To the Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour to submit my report on the fisheries in District No. 2 of the province of New Brunswick, consisting of the above named counties, together with the parish of Stanley in the county of York, and the parish of Aberdeen in the county of Carleton, for the year 1904, giving the products and values by districts and counties, also an estimate of the capital employed in the prosecution of the fisheries.

SALMON.

The catch of these fish is considerably below that of the previous years, but angling was fairly good, and the guardians report the parent fish plentiful everywhere on the spawning grounds last fall.

SHAD.

There can be no improvement in this fishery until they are protected by a close time during spawning season say to the 20th June.

HERRING

Were caught in the usual immense quantities last spring for every purpose, the smoke houses at Pt. de Chene, Bay Verte, are consuming a great many. On many parts of our coasts hundreds of tons of spawn drifts ashore and are carted on to the fields for fertilizer. The herring caught later in the season on the Caraquet Miscou banks are much fatter and would be a very marketable fish, if more care was taken in curing them.

MACKEREL.

Less were taken than in 1903, the reason for which is difficult to understand, their movements from year to year are very erratic.

COD.

A good catch was made with which scarcity of bait somewhat interfered, the dog-fish nuisance did not appear to be quite as bad as the year previous, prices were never before so high which contributed to make the business profitable to all concerned.

SMELTS.

While the winter months of 1904 were the best for many years for the fisherman, the catch being good, the fish large, prices high and weather conditions all that could be desired, December fishing was poor and the fish small though the weather was again all right, but prices were higher than ever known before which helped in some degree to make up for the scarcity; the whole catch for that year was consequently considerably below the large one of 1903.

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LOBSTERS.

The total pack is about the same as the previous year, but some 2,500 cases more were put up north of Escuminac and about 2,500 cases less south of that point. Much is expected in the course of a few years from the output of young fish from the Shimo-gue and Shippegan hatcheries.

OYSTERS.

Considerably more were raked than during the previous season the very high prices obtained for them no doubt stimulated this fishery. The *Ostrea* should again be employed cleaning the beds at Caraquet as they are very dirty.

CLAMS.

Immense quantities of hard shell clams (quahogs) were raked in Buctouche, Cocagne and Shédiac, the value of this fishery in these districts now eclipses that of the oysters altogether, but some restrictions, I believe, are absolutely necessary to preserve so valuable an asset to these communities. During the past season hundreds of men and boys were engaged in this fishery earning from two to five dollars per day. Soft shell clams were also taken in increased quantities especially in Gloucester county for the large cannery operated at Inkerman.

In the many other but less important fisheries there has in the aggregate been quite a large gain, helping to make up the falling off in salmon and smelts.

I have the honour to be, sir,
Your obedient servant,

R. A. CHAPMAN,
Inspector of Fisheries.

SESSIONAL PAPER No. 22

DISTRICT No. 3.

COMPRISING THE COUNTIES OF VICTORIA, CARLETON, YORK,
SUNBURY, QUEEN'S AND KING'S.

FREDERICTON, N.B., February 24, 1905.

To the Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour to submit my third annual report on the fisheries of District No. 3, province of New Brunswick, for the year 1904, showing the quantity and value of fish taken, also the materials and value of same used in connection with the fisheries in this district.

A comparative statement showing the value of fish and materials for three years past is given herewith, viz.:—

Value of fish taken in 1902.....	\$57,204
“ “ 1903.....	61,484
“ “ 1904.....	65,256
showing a slight increase each year.	
Value of materials, 1902.....	\$ 56,585
“ “ 1903.....	51,564
“ “ 1904.....	54,781

This increase is not large, but it is quite gratifying to learn, as I suspected I should, from reports of the several fishery officers I visited last season, that there is even a slight gain. Many features of the past fishing season have been quite satisfactory to those most directly interested as well as very pleasing to me, for instance the general satisfaction obtained from the pursuit of the salmon and trout fishery. The law regulating the fisheries has been fairly well observed, in so far as the several fishery officers were able to enforce it, particularly respecting salmon fishing. In regard to the other kinds of fish in my district the regulations are not so restrictive and the inclination to violate does not seem to be so great.

SALMON.

As may be observed by returns, the quantity of these fish taken the past season was slightly above that of the previous year. While some of the fishermen complain that salmon do not come up the St. John river in as great numbers as they did some years ago, others say they are increasing. Some things which cannot be disputed are, that salmon fishing in the tidal waters was very satisfactory, particularly in the county of York in 1903 and 1904 as evidenced by the number of persons asking for licenses to surface fly fishing on the Tobique river which was also better than for years, or since the fishery regulations were brought into force. Weather conditions may have had something to do with this result, but I am disposed to give the fishery officers due credit.

SHAD.

The statistics show a decrease in the quantity of shad caught last year, in my district. For some cause or another they were very late in ascending the St. John river and tributaries. The run was not as good as in former years, and the lateness of their appearance when the water was warm made them of less value, consequently the incentive was not so great for catching them.

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TROUT.

I have to report the trout fishing as excellent, seemingly better than in 1903. The weather and water conditions were much better and the trout seemingly were willing to be sacrificed for the pleasure of fishermen, who, in one instance, I am told unreasonably captured them, but so far as I could learn, they were all killed legally. However, it seems to me a pity than any person should wish to go to the extreme in taking trout.

I would again like to call the attention of the department to the fact that we have some pretty lakes in my district that we would like very much to have stocked with trout fry.

PICKEREL.

The quantity of pickerel taken did not vary much from that of 1903. While I would like to see the quantity taken, increase, I hope they will not be reported from any section where they do not already exist, for the sake of the trout fishing. I have been told of one lake, in this county where there used to be good trout fishing, some one foolishly put pickerel in the lake and now there are not any trout to be had in it. Pickerel are all exported.

HERRING.

A slight decrease is reported in the quantity of herring caught this year. They are caught only in the waters of the southern part of this district, adjacent to the Bay of Fundy and are sold in the local market.

ALEWIVES.

There is a fairly satisfactory increase in the quantity of alewives taken.

As forecasted in a previous report, the market was in a much more satisfactory condition, consequently the pursuit was pushed more vigorously and the returns are correspondingly satisfactory. The work in connection with this fishery is certainly arduous, the hands of the fishermen soon become sore and when wet and cold the work is anything but pleasant. The celerity with which the fish are taken and returns obtained, however, induces many to follow it.

WHITEFISH.

These fish are reported only from the extreme northern part of my district, the county of Victoria, and it is very seriously questioned, by one man at least, who pretends to know, if there is any whitefish in the inland waters of New Brunswick.

BASS,

There were practically no bass taken in this district last season. Upon inquiry, when visiting the section last summer, where they used to abound, the only reason I could glean for the scarcity of bass, was the wanton destruction permitted some years ago, in close season when the fish were practically of no value. One fishery officer told me that a dog-fish had been caught in a net in Belleisle bay, where about all the bass fishing is done, and that he believed they were being destroyed by that pest. I am unable to verify the statement, that there are any dog-fish in the waters of my district.

STURGEON.

The quantity of sturgeon caught last season was practically the same as in 1903. The fishing was all confined to the county of King's. I hope, some day to see this once important fishery assume large proportions, as it did some years ago, before it was properly restricted. Both meat and caviare are exported to the United States market.

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SYNOPSIS OF FISHERY OFFICERS REPORTS.

King's Co.

Guardian Jenkins, of Kars, reports bass fishing practically a total failure, salmon, shad, alewives and pickerel about the same as usual.

Guardian Dunham, Greys Mills, reports run of fish in his section of water, good. Sturgeon and caviare all exported.

Salmon and shad used for home consumption and sold in local market. Other King's county guardians report fishing as good and in some cases better than in former years. Not so much trouble with mill owners regarding the dumping of sawdust and mill refuse in the streams.

Queen's Co.

Overseer Hetherington, Johnston, in his report, again wages that the weekly close time be changed to read 'from Saturday evening at sun-down to Monday morning at sun-rise'. He claims that it would be much better enforced. He complains of the restrictions placed upon the securing of salmon fishing licenses. A further suggestion of his is, that a fee of \$1 be put on shad nets used by new fishermen, on account of the great number of new nets being fished.

A great many salmon taken in shad nets, but not many taken by licensed fishermen because of the very limited number of licenses issued in that county. Shad were very plentiful and in good demand. Alewives, pickerel and trout in their usual large quantities but pickerel undersized. He questions the statement that there are any real whitefish in the waters of N.B.

Overseer Bulyea, Queen's, West, reports the fishing in his part of the county about as usual. The people in some sections prosecute the fisheries vigorously while in other sections they are indifferent about it.

I have not received any reports from the overseers in Sunbury and York counties, other than statistics, but from personal knowledge I am able to report the shad and alewives catch in Sunbury quite satisfactory, salmon not extra.

In York county waters, the catch of salmon was good also that of shad. The many lakes and streams in this county provide good trout fishing. *Overseer Wilson*, Victoria county, reports salmon more plentiful than for the past twenty years. Whether this is the result of assistance given by the Dominion hatchery at Grand Falls or by better protection in the non-tidal waters, I would not hazard a statement, but I think due credit should be given the Department of Marine and Fisheries for two extra guardians the past season, on the most difficult part of the river.

Mr. Wilson refers to the efficient work done by his special guardians.

Overseer Gagnon, Madawaska section, reports that there is not any noticeable difference in the quantity of fish taken in his district. All are caught for home consumption. He gives his special guardians due credit for attention to their duties. Some nets were seized, but he could not get sufficient evidence to convict the parties. Green river, where some of our United States friends were in the habit of using explosives, was, so far as possible, guarded against such practice the past season.

In conclusion, the season's work, as a whole, seems to have been quite satisfactory.

I have the honour to be, sir,
Your obedient servant,

H. E. HARRISON,
Inspector.

NEW BRUNSWICK—DISTRICT No. 1.

RETURN showing the Number, Tonnage and Value of Vessels, Boats, Nets, &c., and Value of all Fishing Materials and other Fixtures used in the Fishing Industry in the Counties of St. John and Charlotte, Province of New Brunswick, for the Year 1904.

FISHING VESSELS AND BOATS.										FISHING GEAR OR MATERIALS.										KINDS OF FISH.																																																																																																																																																																																																																																																																																																																																																																																																																			
Vessels.					Boats.					Gill Nets.					Seines.					Trawls.					Wiers.					Herring, kippered, and smoked, lb.					Herring, kippered, cans					Herring, salted, brls.					Herring, fresh, lb.					Herring, smoked, lb.					Scallops, in shell, brls.					Number.																																																																																																																																																																																																																																																																																																																																																																											
Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.

SESSIONAL PAPER No. 22

RETURN showing the Kinds and Quantities of Fish, &c., in the Counties of St. John and Charlotte, Province of New Brunswick, for the Year 1904—*Continued.*

Fishing Districts.	KINDS OF FISH.																	TOTAL VALUE OF ALL FISH.	Number.			
	Lobsters, preserved in cans, lb.	Lobsters, fresh in shell, cwt.	Cod, dried, cwt.	Cod, fresh or frozen, lb.	Hadcock, fresh, lb.	Hadcock, dried, cwt.	Hadcock, smoked, fm. nan haddies, lb.	Hake, dried, cwt.	Hake, sounds, lb.	Pollock, cwt.	Halibut, lb.	Trout, lb.	Shad, brls.	Smelts, lb.	Alewyes or gaspereau, brls.	Fish as bait, brls.	Eels, brls.			Sardines, brls.	Clams, in shell, brls.	Clams, canned, cans.
<i>Charlotte Co.</i>																						
1 Lepreau to Red Head	38200	840	60	32000	36000	50	82	9200	1100	45	2000	150	2000	10200	4200	155328	75,397	80	1			
2 Red Head to Letang		2315	1100	32000	112000	100	8740	9200	2900	2360	500	200	400	10400	200	5850	179,949	50	2			
3 Letang to St. George		822	290	39000	112000	4	2300	200	200	21	600	5000	3000	52000	36500	14190	322,070	50	3			
4 St. George to St. Stephen		488	51	27000	105000	2000	6	400	600	21	600	5000	3000	52000	36500	14190	154,710	00	4			
5 Grand Manan		2460	160	231000	622000	1070	5560	6030	4400	7400	7400	200	7000	32500	4000	96000	298,857	00	5			
6 Campbell		99	330		968800		4020	4000	11940	10800		200	1500	20370	4000	96000	117,380	50	6			
7 West Isles		300			13000					1813		5000	4000	40000	2000	96000	106,436	00	7			
8 St. George and vicinity												5000	1000			10	740	00	8			
Totals.	38200	7324	1313	380000	1856800	3224	186800	21264	19830	21679	19300	5000	150	6400	19000	279470	9920	404778	1,255,510	80		
<i>St. John Co.</i>																						
1 St. John City																						
2 Lepreau to Chance Harbour		352	213									800			15000		8000	100	38000		1	
3 Chance Harbour to Mispe		200	60														5	0	2000		2	
4 Mispe to Tynewood Creek		620	115																		3	
5 Tynewood Creek to Albert Co		706	10																		4	
Totals.		1848	389																		5	
Grand totals.	38200	9172	3820	380000	1856800	3444	186800	22214	19830	23269	19300	5000	950	6400	15000	27000	100	319970	9920	404778	1,515,391	30

5-6 EDWARD VII., A. 1906

RECAPITULATION

Of the Yield and Value of the Fisheries in District No. 1, New Brunswick, comprising the Counties of St. John and Charlotte, for the Year 1904.

Kinds of Fish.	Quantity.	Price.		Value.
		\$	cts.	
Salmon, fresh in ice..... Lb.	294,300	0	20	58,860 00
Herring, kippered.....	104,500	0	10	10,450 00
" " in cans..... Cans.	76,500	0	10	7,650 00
" salted..... Brls.	7,605	4	50	34,222 50
" fresh or frozen..... Lb.	1,860,600	0	01	18,606 00
" smoked..... " "	4,640,300	0	02	92,806 00
Scallops in shell..... Brls.	1,510	2	00	3,020 00
Lobsters, fresh..... Cwt.	9,172	10	00	91,720 00
" canned..... Lb.	38,200	0	25	9,550 00
Cod, dried..... Cwt.	3,820	4	50	17,190 00
" fresh or frozen..... Lb.	389,000	0	04	15,560 00
Haddock, fresh..... " "	1,856,800	0	03	55,704 00
" dried..... Cwt.	3,444	3	00	10,332 00
" smoked finnan haddies..... Lb.	186,800	0	06	11,208 00
Hake, dried..... Cwt.	23,214	2	25	52,231 50
" sounds..... Lb.	19,830	0	50	9,915 00
Pollock, dried..... Cwt.	23,209	2	00	46,418 00
Halibut, fresh..... Lb.	19,300	0	10	1,930 00
Trout..... " "	5,000	0	10	500 00
Shad..... Brls.	950	10	00	9,500 00
Smelts..... Lb.	6,400	0	05	320 00
Alewives..... Brls.	15,000	4	00	60,000 00
Eels..... Brls.	100	10	00	1,000 00
Sardines, preserved..... Cans.	2,977,800	0	05	148,890 00
" fresh..... Brls.	319,970	2	00	639,940 00
Flounders..... Lb.	3,500	0	03	105 00
Tom cods or frost fish..... " "	3,000	0	03	90 00
Squid..... Brls.	180	4	00	720 00
Fish oil..... Galls	27,860	0	30	8,358 00
Fish as bait..... Brls.	27,000	1	50	40,500 00
" fertilizer..... " "	35	0	50	17 50
Clams in shell..... Brls.	9,920	1	00	9,920 00
" canned..... Cans.	404,778	0	10	40,477 80
Cockles, fresh..... Brls.	300	5	00	1,500 00
Dulse..... Lb.	103,000	0	06	6,180 00
Total value of catch for 1904.....				1,515,391 30
" " 1903.....				1,067,826 00
Value of increase for 1904.....				447,565 30

SESSIONAL PAPER No. 22

RECAPITULATION

OF the Number and Value of Vessels, Boats, Nets, Weirs, &c., engaged in the Fisheries of District No. 1, New Brunswick, comprising the Counties of St. John and Charlotte, for the Year 1904.

Number.	Material.	Value.
		\$ cts.
97	Vessels, tonnage 1,673.	49,100 00
1,603	Boats.	195,325 00
3,173	Gill-nets, fathoms 202,600.	24,775 00
495	Seines " 17,180.	31,300 00
670	Trawls	7,716 00
424	Weirs	214,300 00
29	Smelt-nets	380 00
1,868	Hand lines.	1,475 00
4	Lobster canneries.	11,500 00
23,950	" traps.	24,050 00
11	Freezers and ice houses.	4,600 00
767	Smoke and fish houses.	181,960 00
295	Piers and wharfs.	79,300 00
43	Tugs and smacks	24,000 00
147	Weir scows.	6,290 00
225	Pile drivers.	5,270 00
32	Fish presses.	1,320 00
5	Clam canneries.	6,500 00
1	Fish guano factory.	5,000 00
5	Sardine canneries	41,000 00
Total value of material		825,161 00

5-6 EDWARD VII., A. 1906

NEW BRUNSWICK—

RETURN showing the Number, Tonnage and Value of Vessels, Boats,

Number.	DISTRICTS.	FISHING VESSELS AND BOATS.						FISHING.		
		Vessels.				Boats.		Gill		
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.
	<i>Restigouche Co.</i>			\$		\$				
1	Above Dalhousie.....					22	640	36	42	8500
2	Below Dalhousie	1	26	950	5	290	3940	370	140	20000
	Totals	1	26	950	5	312	4580	406	182	28500
	<i>Gloucester Co.</i>									
3	Beresford and vicinity.....	1	10	800	4	435	10000	880	1500	50500
4	Caraquet, New Bandon and part of Bathurst...	128	1500	53000	450	560	17000	1100	2000	68000
5	Sammaraz, Inkerman and Shippegan mainland....	24	260	9800	100	260	6000	500	3800	93000
6	Shippegan and Miscou islands	64	780	30000	230	470	20000	960	1200	40000
	Totals	217	2550	93600	784	1725	53000	3440	8500	251500
	<i>Northumberland Co.</i>									
7	Neguac and vicinity.....	4	73	2000	14	210	7000	300	610	50000
8	Bay du Vin and vicinity	3	40	1200	9	250	7500	450	800	80000
9	Chatham and vicinity	1	10	300	3	150	4000	200	420	35000
10	Southwest and Northwest Miramichi rivers.....					130	2100	150	380	16000
	Totals.....	8	123	3500	26	740	20600	1100	2510	181000
	<i>Kent Co.</i>									
11	Richibucto, St. Louis and Carleton.....					295	10500	450	4200	75000
12	Buctouche and vicinity.....					550	15000	800	3300	66000
13	Cocagne.....					320	8500	500	1100	30000
	Totals.....					1165	34000	1750	8600	171000
	<i>Westmorland Co.</i>									
14	Shediac, Moncton and Salisbury.....					410	12000	700	720	35000
15	Botsford.....					460	13000	760	650	18500
16	Sackville and Westmorland					250	5000	350	500	10000
17	Dorchester.....					30	1800	60	160	7000
	Totals.....					1150	31800	1870	2030	70500
18	<i>Albert County.</i>					10	300	12	15	2000
	Grand totals.....	226	2699	98050	815	5102	144280	8578	21837	704500

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District No. 2.

Nets, &c., in District No. 2, Province of New Brunswick, for the year 1904.

GEAR OR MATERIALS.					Lobster canneries, number.	KINDS OF FISH.											Number.
Nets.		Trawls.		Smelt Nets		Salmon, fresh, lb.	Salmon, preserved in cans, lb.	Salmon, smoked, lb.	Herring, salted, brls.	Herring, fresh, lb.	Herring, smoked, lb.	Mackerel, fresh, lb.	Mackerel, salted, brls.	Lobster, preserved in cans, lb.	Lobster, fresh in shell, cwt.		
Value.	Number.	Value.	Number.	Value.													
\$		\$		\$													
7500	.....	.....	143	7500	.....	48000	.....	.....	.....	.....	.....	.....	.....	.....	150	1
17500	.....	.....	23	2300	3	115000	.....	.....	1300	300000	40000	.....	.....	60000	200	2
25000	.....	.....	166	9800	3	163000	.....	.....	1300	300000	40000	.....	.....	60000	350	
31000	20	80	.....	.....	5	66000	300	400	13000	180000	13000	3600	10	14400	360	3
40000	200	900	55	2800	18	182000	.....	.....	35000	150000	.....	15000	20	254000	520	4
35000	20	100	200	7000	8	100000	.....	.....	12000	50000	.....	15000	20	92000	200	5
14000	100	400	40	2000	32	.....	3000	1000	15000	60000	.....	16000	20	505000	150	6
120000	340	1480	295	11800	63	348000	3300	1400	75000	440000	13000	49600	70	865400	1230		
45 00	..	...	211	17000	9	95000	..	.....	5000	20000	10000	2000	...	76000	200	7
75000	.....	.....	240	15000	3	68000	.....	.....	2800	20000	12000	56000	20	64000	200	8
30000	.....	.....	360	27000	1	77000	.....	.....	120	10000	.....	2000	.....	.....	.....	9
8000	.....	.....	.....	.....	.....	86000	.....	3000	.....	.....	.....	.....	.....	.....	.....	10
158000	.....	.....	811	59000	13	326000	.....	3000	7920	50000	22000	60000	20	140000	400	
14600	42	400	350	14000	12	46000	400	1250	14000	75000	.....	150000	250	176000	280	11
16500	.....	.....	270	11000	27	.....	.....	.....	11000	170000	.....	2000	.....	150000	200	12
8000	.....	.....	70	3500	5	.....	.....	.....	7500	40000	.....	2000	.....	24500	150	13
39100	42	400	690	28500	44	46000	400	1250	32500	285000	.....	154000	250	350500	630	
15000	.....	.....	140	7000	29	2500	.....	.....	26000	500000	2200000	3000	...	195000	300	14
7000	.....	.....	80	2800	50	.....	.....	.....	8000	800000	660000	1000	.....	401000	2800	15
3000	.....	.....	55	1400	.....	500	.....	.....	1200	60000	5000000	1000	.....	5000	2000	16
3000	.....	.....	.....	.....	.....	3000	.....	.....	100	.....	.....	.....	.....	.....	.....	17
28000	...	...	275	11200	79	6000	.....	.....	35300	1360000	7860000	5000	...	601000	5100	
1200	.....	.....	.....	.....	.....	3000	.....	.....	200	4000	.....	.....	.....	.....	.....	18
371300	382	1880	2237	120300	202	892000	3700	5650	152220	2439000	7935000	268600	340	2016900	7710		

5-6 EDWARD VII., A. 1906

RETURN showing the Kinds and Quantities of Fish and Fish Products

Number.	DISTRICTS.	KINDS OF FISH							
		Cod, dried, cwt.	Cod, tongues and sounds, brls.	Haddock, dried, cwt.	Hake, dried, cwt.	Hake, sounds, lb.	Halibut, lb.	Trout, lb.	Shad, brls.
	<i>Restigouche Co.</i>								
1	Above Dalhousie							6000	
2	Below Dalhousie	30						4000	
	Totals	30						10000	
	<i>Gloucester Co.</i>								
3	Beresford and vicinity	2500			160			9000	
4	Caraquet, New Bandon and part of Bathurst	41000	150		1500	2000	52000	12000	
5	Saumarez, Inkerman and Shippegan mainland	12000	50	1000	2000	2000	12000	4200	50
6	Shippegan and Miscou islands	25000	80		2000	2000	32000	500	
	Totals	80500	280	1000	5660	6000	96000	25700	50
	<i>Northumberland Co.</i>								
7	Negunac and vicinity	1700		300	800	500	2000	6000	200
8	Bay du Vin and vicinity	2000		300	200		3000	1500	125
9	Chatham and vicinity	420		300	200			5000	500
10	South-west and North-west Miramichi rivers.							25000	1200
	Totals	4120		900	1200	500	5000	37500	2025
	<i>Kent Co.</i>								
11	Richibucto, St. Louis, Carleton, &c.	3000		250	2700	1500	4100	3500	190
12	Buctouche and vicinity	50			200	300		2000	10
13	Cocagne and vicinity	50			100			2600	10
	Totals	3100		250	3000	1800	4100	8100	210
	<i>Westmorland Co.</i>								
14	Shediac, Moncton and Salisbury	50			40			14000	20
15	Botsford							8000	20
16	Sackville and Westmorland							2000	250
17	Dorchester							2500	910
	Totals	50			40			26500	1200
18	<i>Albert County</i>	40						10000	100
	Grand totals	87840	280	2150	9900	8300	105100	117800	3585

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in the Counties of Province of **New Brunswick** for the year 1904.

AND FISH PRODUCTS.													Number.	
Smelts, lb.	Alewives or gaspereau, brls.	Bass, lb.	Eels, brls.	Oysters, brls.	Clams, brls.	Flounders, lb.	Tom cod or frost fish lb.	Squid, brls.	Coarse and mixed fish, brls.	Fish oil, galls.	Fish as bait, brls.	Fish as manure, brls.		
													Total Value of All Fish.	
													\$ cts.	
350000			15			30000	20000		60		10	80	30,425 00	1
40000		1200	46		20	2000	15000		100	10	400	500	53,568 00	2
390000		1200	61		20	32000	35000		160	10	410	580	83,993 00	
5000		1500	20		7000	17000	14000	15	360	200	1500	20000	121,372 00	3
350000		8000	200	600	5000	25000	150000	400	800	16000	10000	24000	534,470 00	4
420000	500	3500	200	60	10000	15000	20000	150	3000	2000	2000	5000	225,360 00	5
250000		7000	100	60	2000	5000	10000	150	800	8000	11000	12000	366,260 00	6
1025000	500	20000	520	720	24000	62000	194000	715	4960	26200	24500	61000	1,247,462 00	
960000	100	6000	140	1200	460	20000	300000		200	300	700	4800	146,410 00	7
650000	500	4000	150	5500	300	50000	150000		1000		5000	10000	147,935 00	8
1260000	300	6000	35	1000		30000	1750000			50	40	200	148,745 00	9
10000	1200	56000	500				50000						49,700 00	10
2980000	2100	72000	815	7700	700	100000	2250000		1200	350	5700	15000	492,790 00	
995000	1600	20000	860	1100	500	40000	100000	20	300	700	2800	14000	254,005 00	11
450000	1500	2000	150	2500	15000	5000	70000		1000	200	5600	21000	187,175 00	12
240000	500	3000	200	2000	10000	5000	50000		500	100	1800	10000	98,905 00	13
1685000	3600	25000	1210	5600	25500	50000	220000	20	1800	1000	10200	45000	540,085 00	
520000	400	3000	160	800	3000		20000		750		18000	44000	309,925 00	14
310000	200	2000	100	300	2000		10000				30000	20000	253,670 00	15
120000	250	2500	75	200	1000		10000				5000	5000	143,470 00	16
		50					3000		100				11,220 00	17
950000	850	7500	385	1300	6000		43000		850	100	53000	69000	718,285 00	
3000		500	50		10		20000		50				5,140 00	18
6933000	7050	126200	3041	15320	56230	244000	2762000	735	9020	27660	93850	190580	3,087,755 00	

RECAPITULATION

Of the Yield and Value of the Fisheries in District No. 2, New Brunswick, for the Year 1904.

Kinds of Fish.	Quantity.	Price.	Value.
		\$ cts.	\$
Salmon, fresh..... Lb.	892,000	0 20	178,400
" in cans..... "	3,700	0 15	555
" smoked..... "	5,650	0 20	1,130
Herring..... Brls.	152,220	4 50	684,990
" fresh..... Lb.	2,439,000	0 01	24,390
" smoked..... "	7,935,000	0 02	158,700
Mackerel, fresh..... "	268,600	0 12	32,232
" salted..... Brls.	340	15 00	5,100
Lobsters, preserved..... Cans.	2,016,960	0 25	504,225
" fresh or alive..... Cwt.	7,710	6 00	46,260
Cod..... "	87,840	4 50	395,280
" tongues and sounds..... Brls.	280	10 00	2,800
Haddock..... Cwt.	2,150	3 00	6,450
Hake..... "	9,900	2 25	22,275
" sounds..... Lb.	8,300	0 50	4,150
Halibut..... "	105,100	0 10	10,510
Trout..... "	117,800	0 10	11,780
Shad..... Brls.	3,585	10 00	35,850
Smelts..... Lb.	6,933,000	0 05	346,650
Alewives..... Brls.	7,050	4 00	28,200
Bass..... Lb.	125,200	0 10	12,620
Eels..... Brls.	3,041	10 00	30,410
Oysters..... "	15,520	5 00	76,600
Clams..... "	56,230	2 00	112,460
Flounders..... Lb.	244,000	0 03	7,320
Frost fish..... "	2,762,000	0 03	82,860
Squid..... Brls.	735	4 00	2,940
Coarse fish..... "	9,020	2 00	18,040
Fish oil..... Galls.	27,660	0 30	8,298
Fish as bait..... Brls.	93,850	1 50	140,775
" as manure..... "	190,580	0 50	95,290
Seal skins..... No.	172	1 25	215
Total.....			3,087,755

SESSIONAL PAPER No. 22

RECAPITULATION

OF the Number and Value of Vessels, Boats, Nets, Traps, &c., employed in the Fisheries in District No. 2, **New Brunswick**, in the Year, 1904.

Material.	Value.	Total.
	\$	\$
226 fishing vessels (aggregate tonnage 2699)	98,050	
5,102 " boats	144,280	
704,500 fathoms of nets	371,300	
2,237 smelt-nets	120,300	
141 bass scoop nets	910	
382 trawls	1,880	
5,500 hand lines	3,895	
202 lobsters canneries	104,800	742,615
232,600 " traps	207,400	
189 freezers and ice houses	68,300	312,200
388 fish and smoke houses	47,820	
45 piers and wharfs	29,800	
68 steamers and smacks	21,500	
815 smelt shanties	13,200	180,620
Total		1,233,435

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RECAPITULATION.

RETURN showing the Kinds and Quantities of Fish in the *District No. 3*, comprising the Counties of King's, Queen's, Sunbury, York, Carleton and Victoria, Province of **New Brunswick**, for the Year 1904.

Kinds of Fish.	Quantity.	Price.	Value.
		\$ cts.	\$
Salmon.....Lb.	86,000	0 20	17,200
Shad, salted.....Brls.	835	10 00	8,350
" fresh.....Lb.	64,800	0 05	3,240
Herring, salted....."	250	4 50	1,125
" fresh or smoked....."	30,000	0 02	600
Whitefish....."	8,300	0 15	1,245
Trout....."	129,000	0 10	12,900
Bass....."	250	0 10	25
Pickarel....."	118,500	0 07	8,295
Alewives, salted.....Brls.	2,675	4 00	10,700
" fresh or smoked.....Lb.	36,500	0 02	732
Sturgeon....."	6,000	0 08	480
Caviare....."	500	0 90	450
Eels.....Brls.	105	10 00	1,050
Coarse and mixed fish....."	773	2 00	1,546
Total.....			67,938

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RECAPITULATION

Of the Number of Fishermen, Tonnage and Value of Vessels, Boats, Nets and other Materials in the Fishing Industry in *District No. 3*, Province of New Brunswick, for the Year 1904.

Material.	Quantity.	Value.
		\$
Men employed 1,467		
Fishing vessels (60 Tonnage)	2	600
Boats and canoes	885	10,350
Gill nets (55,220 Fathoms)	2,073	27,200
Rods and lines	1,715	5,050
Eel traps	81	81
Cottages, smoke and ice houses	187	11,500
		54,781

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RECAPITULATION showing the Number, Tonnage and Value of Vessels, Boats and other Fishing Materials, &c.,
New Brunswick—Continued.

FISHING VESSELS AND BOATS.				LOBSTER PLANT.				OTHER FIXTURES USED IN FISHERIES.												
Weirs.		Smelt Nets.		Hand Lines.		Canneries.		Traps.		Persons employed in canneries.		Freezers and Icehouses.		Smoke Fishhouses.		Piers and Wharfs.		Tugs, Steamers and Snares.		
Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	
COUNTIES.																				
District No. 1.																				
1 Charlotte.....	388	203000	27	260	1753	1415	4	11500	18900	18900	101	6	2100	688	100000	216	67300	43	24000	1
2 St. John.....	36	11300	2	120	75	60	.....	.....	5050	5150	.....	5	2500	79	21400	79	12900	.....	.....	2
District No. 2.																				
3 Albert.....	275	11200	250	100	79	18000	68000	60000	1675	65	4300	130	13700	11	2300	2	2000	4
4 Westmorland.....	690	28500	900	370	44	14500	43500	38800	900	16	9100	28	3800	15	4000	1	3000	5
5 Kent.....	811	59000	300	420	13	13000	15000	13000	360	44	20200	117	13000	1	10000	18	6000	6
6 Northumberland.....	295	11800	400	3000	63	56500	101000	91000	1960	56	19200	110	16500	14	13000	43	6500	7
7 Gloucester.....	166	3800	50	5	3	2800	5100	4600	81	8	15500	2	800	1	200	4	4000	8
8 Restigouche.....	9
District No. 3.																				
9 Victoria.....	405	1650	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10
10 Carleton.....	325	700	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11
11 York.....	385	1500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12
12 Sunbury.....	100	200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	13
13 Queen's.....	250	500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14
14 King's.....	250	500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15
Totals.....	424	214300	2266	120680	9083	10420	206	116300	256550	231450	5077	200	72900	1342	241280	340	109100	111	45500	.....

Showing the Kinds and Quantities of Fish Products in the Province of New Brunswick, for the Year 1904.

KINDS OF FISH.

COUNTIES.	Number.	Salmon, fresh, lb.	Salmon, preserved in cans, lb.	Salmon, smoked, lb.	Herring, salted, brls.	Herring, fresh, lb.	Herring, smoked, lb.	Mackerel, fresh, lb.	Mackerel, salted, brls.	Lobsters, preserved in cans, lb.	Lobsters, fresh in shell, cwt.	Cod, dried, cwt.	Cod, tongues and sounds, brls.	Haddock, fresh, lb.	Haddock, dried, cwt.	Haddock, smoked human haddies, lb.	Hake, dried, cwt.	Hake, sounds, lb.	Pollock, cwt.	Halibut, lb.	Number.	
<i>District No. 1.</i>																						
1 Charlotte.....	4000			4340300		1800000				38200	7324	3431		1856800	3224	186800	21264	19830	21079	118000	1	
2 St. John.....	290300			300000		1085					1818	389			220		1950		1530			2
<i>District No. 2.</i>																						
3 Albert.....	3000				200	4000				601000	5100	40					40					3
4 Westmorland.....	6000			780000		1300000		5000		350500	630	50					3000	1800		4100	4	
5 Kent.....	40000			295300		295300		15000	250	140000	400	3100			250		5000	500		50000	5	
6 Northumberland.....	325000			50000		50000		60000	20	140000	400	4120			900		1200	500			6	
7 Gloucester.....	318000			13000		40000		49000	70	863400	1280	80500	280		1000		5660	6000		96000	7	
8 Restigouche.....	163000			40000		300000				60000	350	30										8
<i>District No. 3.</i>																						
9 Victoria.....	10000																					9
10 Carleton.....	10000																					10
11 York.....	43000																					11
12 Simsbury.....	1000																					12
13 Queen's.....	2000																					13
14 King's.....	20000			30000																		14
Totals.....	1272300	3700	3650	160075	4250000	12065300	268500	340	2055100	16882	91650	280	1856800	5504	186800	33114	28130	23200	124400			

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Showing the Kinds and Quantities of Fish and Fish Products in the Province of New Brunswick, for the Year 1904.

COUNTIES.	KINDS OF FISH.										FISH PRODUCTS.				Seal skins, No.	TOTAL VALUE OF ALL FISH.	Number.		
	Trout, lb.	Shad, Brls.	Smelts, lb.	Allevites or Gaspereau brls.	Basas, lb.	Pickarel, lb.	Bels, brls.	Sardines, brls.	Oysters, brls.	Clams, brls.	Flounders, lb.	Tom cod or frost fish, lb.	Squid, brls.	Coarse and mixed fish, brls.				Fish oil, galls.	Fish as bait, brls.
<i>District No. 1.</i>																			
1 Charlotte.	5000	150	6400	15000				279470		9920	3500	3000	180		27800	19000	35	1,255,510 80	1
2 St. John.		80					100	40500								8000		259,880 50	2
<i>District No. 2.</i>																			
3 Albert.	10000	100	3000		500		50			10		20000		50				5,140 00	3
4 Westmorland	26500	1200	950000	850	7500		385		1300	6000	43000		850		100	53000	69000	718,285 00	4
5 Kent.	8100	210	1685000	3600	25000		1210		5600	25500	50000	220000	20	1800	1000	10200	45000	540,085 00	5
6 Northumberland.	87500	2025	2880000	2100	72000		815		7700	700	100000	2250000		1200	350	5740	15000	492,790 00	6
7 Gloucester.	25700	50	1025000	500	20000		520		720	24000	62000	194000	715	4500	26200	24500	61000	1,247,462 00	7
8 Restigouche	10000		350000		1200		61			20	32000	35000		160	10	410	580	83,993 00	8
<i>District No. 3.</i>																			
9 Victoria.	15000	25				500	25							300				5,880 00	9
10 Carleton.	15000	35					10							50				4,050 00	10
11 York.	60000	170		315		30000	10							200				20,152 00	11
12 St. Hubert.	2000	75		1320		36000	20							100				9,350 00	12
13 Queen's.	7000	425		1050		32000	20							48				12,126 00	13
14 King's.	30000	425		175	250	20000	20							75				16,380 00	14
Totals.	251800	5694	6639400	24908	126450	118500	3246	319970	15320	66150	247500	2765000	915	9793	55520	129650	139615	4,671,084 30	30

RECAPITULATION

OF the Yield and Value of the Fisheries of the whole Province of **New Brunswick**,
for the Year 1904.

Kinds of Fish.	Quantity.	Rate.		Value.		Total.	
		\$	cts.	\$	cts.	\$	cts.
Salmon, fresh	Lb.	1,272,300	0 20	254,460 00			
" smoked	"	5,650	0 20	1,130 00			
" canned	"	3,700	0 15	555 00		256,145 00	
Herring, salted	Brls.	160,075	4 50	720,337 50			
" fresh or frozen	Lb.	4,299,600	0 01	42,996 00			
" smoked	"	12,605,300	0 02	252,106 00			
" kippered	"	181,000	0 10	18,100 00		1,033,539 50	
Mackerel, salted	Brls.	340	15 00	5,100 00			
" fresh	Lb.	268,600	0 12	32,232 00		37,332 00	
Lobsters, preserved	Lb.	2,055,100	0 25	513,775 00			
" alive or fresh	Cwt.	16,882		137,989 00		651,755 00	
Cod, dried	Cwt.	91,660	4 50	412,470 00			
" fresh	Lb.	389,000	0 04	15,560 00			
" tongues &c	Brls.	280	10 00	2,800 00		430,830 00	
Haddock, dried	Cwt.	5,594	3 00	16,782 00			
" fresh	Lb.	1,856,800	0 03	55,704 00			
" (finnan haddies)	"	186,800	0 06	11,208 00		83,694 00	
Hake, dried	Cwt.	33,114	2 25	74,506 50			
" sounds	Lb.	28,130	0 50	14,065 00		88,571 50	
Pollock	Cwt.	23,209	2 00			46,418 00	
Halibut	Lb.	124,400	0 10			12,440 00	
Trout	"	251,800	0 10			25,180 00	
Shad, salted	Brls.	5,694	10 00			56,940 00	
Alewives, salted	"	24,725	4 00	98,900 00			
" smoked	Lb.	36,600	0 02	732 00		99,632 00	
Eels	Brls.	3,246	10 00			32,460 00	
Smelts	Lb.	6,939,400	0 05			346,970 00	
Bass	"	126,450	0 10			12,645 00	
Whitefish	"	8,300	0 15			1,245 00	
Pickarel	"	118,500	0 07			8,295 00	
Sturgeon	"	6,000	0 08	480 00			
Caviare	"	500	0 90	450 00		930 00	
Flounders	Lb.	247,500	0 03			7,425 00	
Tom cod	"	2,765,000	0 03			82,950 00	
Sardines	Brls.	319,970	2 00	639,940 00			
" canned	Cans.	2,977,800	0 05	148,890 00		788,830 00	
Squid	Brls.	915	4 00			3,660 00	
Oysters	"	15,320	5 00			76,600 00	
Clams	"	66,150		123,886 00			
" canned	Cans.	404,778	0 10	40,477 80		164,357 80	
Scallops	Brls.	1,510	2 00			3,020 00	
Coarse and mixed fish	"	9,793	2 00			19,586 00	
Fish as bait	"	120,850	1 50			181,275 00	
" fertilizer	"	190,615	0 50			95,307 50	
Fish oil	Galls.	55,520	0 30			16,656 00	
Seals	No.	172	1 25			215 00	
Dulse	Lb.	103,000	0 06			6,180 00	
Total for 1904						4,671,084 30	
" 1903						4,186,800 00	
Increase						484,284 30	

RECAPITULATION

OF the material used in the Fishing Industry of the whole of **New Brunswick**,
for the Year 1904.

Articles.	Value.	Total.
	\$	\$
325 Fishing vessels (4,432 tons).....	147,750	
7,590 " boats	259,955	407,705
962,320 Fathoms of gill-nets.....	423,275	
17,180 " seines	31,300	
2,266 Smelt-nets.....	120,680	
141 Bass-nets.....	910	
424 Weirs.....	214,300	
81 Eel traps.....	81	
1,052 Trawls.....	9,596	
9,083 Hand lines.....	10,420	810,562
206 Lobster canneries.....	116,300	
256,550 " traps.....	231,450	347,750
200 Freezers and ice houses.....	72,900	
1,342 Fish and smoke houses.....	241,280	
815 Smelt shanties.....	13,200	
340 Fishing piers and wharfs	109,100	
111 Fishing tugs and smacks	45,500	
5 Sardine canneries.....	41,000	
5 Clam canneries	6,500	
Fish curing establishments		
32 Fish presses.....	1,320	
1 Fish guano factory.....	5,000	
147 Weir scows.....	6,290	
225 Pile drivers.....	5,270	547,360
Total.....		2,113,377

Statement of the number of men engaged in the Fishing Industry of New Brunswick, 1904.

Number of men in vessels.....	1,280
" " boats.....	11,985
" persons in lobster canneries.....	5,077
Total.....	18,342

APPENDIX No. 5.

PRINCE EDWARD ISLAND.

REPORT BY INSPECTOR J. A. MATHESON.

CHARLOTTETOWN, P.E. ISLAND, January 2, 1905.

To the Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour to submit my annual report of the fisheries of the province of Prince Edward Island, together with tabulated statistics showing in detail the catch in each county and locality, also synopses of reports of overseers for the past year, and brief reference to the principal features in the season's operations.

I am pleased to be in a position to state that our most important fisheries, viz.: lobsters and oysters, continue to be profitable notwithstanding the annually increasing number of men and boats employed in prosecuting these branches of the fishing industry.

MACKEREL.

I have to report an annually small catch of mackerel. A few fish were taken in nets in July, but hooking was almost a complete failure. The fish taken, however, were large and of good quality.

OYSTERS.

This important branch of the fisheries continues to be quite successful and is still most remunerative, although the beds are so persistently dragged during the season. I trust that a change made by reducing the time for spring fishing may be of some benefit, but if this fishing season were entirely abolished much greater benefit would doubtless accrue.

I would advise that arrangements be made between the federal and provincial governments for defining the oyster area so that beds could be leased by private parties and means thereby secured for materially increasing the value of this industry.

I would also suggest that the department would adopt a legal sized barrel. The flour barrel to be the most acceptable. It is seventeen inches in diameter at top and bottom, has two inch bilge, is twenty-five inches deep on the inside, and contains not less than ten pecks

LOBSTERS.

There had been about an average catch for the last few years, but this season shows an increase of 165,700 lb.—a gratifying result to those engaged in the business in view of the larger number of men annually engaged in this industry. A vast improvement in this branch of our fisheries may confidently be anticipated if the good results expected be realized from the erection of the hatchery at Block House Point.

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HAKE.

An increase will be noticed in the catch of hake, especially in King's county, where this fish struck in late in the season, when the fishermen secured a good market.

HERRING.

Herring were taken in large quantities and were the means of adding to the profits of lobster packers by affording a cheap bait. Fall herring, plentiful and of good quality, were taken around Souris and East Point. If sufficient attention were given to fall fishing this branch might become very profitable.

COD.

Although one of the most reliable of our fisheries, the codfishing is not prosecuted with the vigour which is necessary to make it a success. If a good class of fishermen could be procured there is no apparent reason why a profitable business could not be established. A few Nova Scotia fishermen have prosecuted this branch at Cascumpec for the past two seasons, and I am informed that they are well pleased with the results. A fish drier has been erected and equipped at Souris and is now ready for next season's operations. If properly appreciated, the drier will be of great advantage to the fishermen of that locality.

SMEELTS.

The smelt fishery is becoming one of our most profitable industries, and is prosecuted in winter when fishermen have very little other employment. Gill-nets are now being more generally used, and take a better quality of fish.

TROUT.

Trout are but sparingly taken for commercial purposes, but afford enjoyment to local sportsmen. A trout hatchery has been erected at Southport, and with proper management ought to replenish our streams. Overseer McCormack, of King's county, reports as follows :—

The first lobsters were packed on April 25th. The fishing was good all through the season, especially on the north side. Size about the same as last season.

Herring struck in on the south side on the 19th of April. This fish show an increase all over the county. Some good catches were made in the fall which found ready sale for local consumption at good prices.

Cod struck in early in May. Very good fishing up to the middle of June. The fish were large. This fishery was slow last season.

Hake.—This branch of the fishing was unusually good between Souris and East Point during the fall. The dog-fish were not as troublesome as last season.

Mackerel were almost a failure ; only about one-third of last year's catch.

I have to report several violations of the lobster fishery in the southern part of the county. A large number of traps were destroyed by cruiser *Kingfisher*. Some of the poachers were caught and fined ; a number left the island to escape arrest.

Overseer Davison, of Prince county, reports large quantities of herring, a fair catch of lobsters, but owing to rough weather fishermen lost a good deal of time.

Oysters.—About an average catch. Prices were good and fishermen made fair wages. Other kinds of fish were about as usual. A few violations of the fisheries' regulations occurred, but, on the whole, the law was fairly well enforced.

I have the honour to be, sir,

Your obedient servant,

J. A. MATHESON,

Inspector of Fisheries.

RETURN showing the Number and Value of Vessels, Boats, Nets, &c., in the County of King's, Province of Prince Edward Island, for the year 1904.

Fishing Districts				Fishing Vessels and Boats.						Fishing Gear or Materials.								Kind of Fish.																			
Vessels.				Boats.		Gill Nets.		Trawls.		Smelt-nets, number.		Smelt-nets, value.		Hand lines, number.		Hand lines, value.		Lobster canneries, No.		Value.		Salmon, fresh, lb.		Herring, salted, brls.		Herring, fresh, lb.		Herring, smoked, lb.		Mackerel, fresh, lb.		Mackerel, salted, brls.		Number.			
Number.	Tonnage.	Value.	Men.	Number.	Value.	Number.	Fathoms.	Value.	Number.	Value.	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%			
King's Co.																																					
1	21	1500	4	45	900	65	200	4000	2000	40	400	1	40	100	200	4	2500	290	4	2500	290	25000	...	300	100	1	...	...	...	...	...	...	100	1
2	...	...	...	10	250	20	80	100	800	4	40	4	150	25	50	3	1700	750	3	1700	750	100	10000	...	400	10	2	...	...	...	...	...	100	2
3	10	250	4	100	1650	130	320	6400	2260	10	100	1	30	100	200	6	6000	...	6	6000	...	240	30000	...	250	25	3	...	...	...	...	...	250	3
4	9	224	4000	44	3000	240	500	10000	4000	40	400	10	50	260	520	4	4000	300	4	4000	300	600	300000	150000	300	40	4	...	...	...	...	...	300	4
5	...	...	...	60	1500	120	300	6000	2400	10	100	...	100	200	...	100	200	12	5000	5200	200	20000	...	...	...	...	...	...	...	...	...	...	...	10
6	9	205	4000	52	45	1250	65	165	1625	1300	55	550	30	150	250	500	4150	...	8	4000	...	220	10000	...	200	16	6	...	...	...	...	...	200	6
7	75	1500	160	200	4000	1600	20	200	50	150	200	...	200	...	2	4000	...	220	10000	...	200	16	6	200	6		
8	...	...	...	50	1000	75	125	2000	1000	...	...	...	100	200	...	100	200	5	3600	...	120	5000	...	200	40	...	...	...	...	...	...	...	200	40
9	50	1000	90	100	1800	800	10	100	160	120	4	2500	150	3	3000	...	200	100	100	9		
10	40	750	80	115	2000	920	30	300	120	240	1	2000	...	1	2000	...	220	4000	...	400	180	10	400	180		
Totals.				20	460	9750	104	545	12800	1045	2105	37985	17080	219	2190	96	570	1215	2430	54	35650	6100	2850	69400	150000	2850	541	541	...		
Values.				

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Return showing the kinds and quantities of Fish Products in the County of King's, Province of Prince Edward Island, for the year 1904.

FISHING DISTRICTS.	KIND OF FISH.																			TOTAL VALUE OF ALL FISH.	Number.		
	Lobster, preserved in cans, lb.	Cod, dried, cwt.	Cod, tongues & sounds, bols.	Haddock, fresh, lbs.	Haddock, dried, cwt.	Hake, dried, cwt.	Hake, sounds, lb.	Pollock, cwt.	Trout, lb.	Smelts, lb.	Alwives or gaspereau, bols.	Eels, bols.	Caplin, bols.	Clams, bols.	Tom cod or frost fish, lb.	Squid, bols.	Coarse and mixed fish, bols.	Fish oil, galls.	Fish as bait, bols.			Canned clams, cases.	
King's Co.																							
1	62448	2000	5	400	25	2500	5000	10	1000	8000	...	20	100	10	500	100	50	2000	560	...	38,635 00	1	
2	52848	60	...	400	10	...	...	...	1500	10000	...	4	...	...	...	...	...	...	400	...	15,732 00	2	
3	133584	125	...	300	...	50	100	...	...	500	4000	...	10	...	4	100	10	40	75	1300	...	38,376 50	3
4	98784	218	4	500	35	100	200	5	1500	20000	60	100	...	10	1000	50	80	150	1500	60	...	40,988 00	4
5	175680	50	...	...	...	40	80	15	1000	4000	...	15	...	...	...	...	100	40	2400	140	...	50,532 00	5
6	78240	880	10	500	...	1000	2000	...	...	2000	6000	65	...	15	1000	100	...	750	1400	230	...	37,049 00	6
7	187680	300	5	250	10	100	200	...	3000	6000	...	...	...	...	...	10	50	150	1500	...	...	54,466 00	7
8	35568	200	...	...	5	...	...	...	...	500	...	...	...	...	...	...	...	75	1000	...	...	27,568 50	8
9	101424	220	...	...	40	50	100	...	...	1000	500	40	...	...	...	...	20	120	800	...	...	31,205 50	9
10	38400	280	6	...	65	200	400	15	1200	...	...	10	...	...	...	25	40	200	600	...	...	16,948 00	10
Totals.....		4333	30	2300	190	4040	8080	45	11800	54500	165	164	100	44	2600	295	380	3560	11460	430	...	351,525 50	
Values		256164	19428	300	69	570	9030	4040	135	1180	2725	660	1640	350	176	78	1180	700	1068	17190	2150	...	

RETURN showing the Number, Tonnage and Value of Vessels, Boats, Nets, &c., in the County of Queen's, Province of Prince Edward Island, for the Year 1904.

Number.	DISTRICTS.	FISHING VESSELS AND BOATS.						FISHING GEAR OR MATERIALS.						KINDS OF FISH.				Number.			
		Vessels.			Boats.			Gill Nets.			Seines.			Trawls.	Value.	Herring, salted, brls.	Herring, fresh, lb.		Mackerel, fresh, lb.	Mackerel, salted, brls.	
		Number.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.								
<i>Queen's Co.</i>																					
1	Tracadie	5	80	3200	20	50	2000	75	200	4250	1200			10	80	4	7400	1125	2000	184	
2	New London					35	950	70	7	125	100			30	250	6	2300	140	300	300	
3	Crapaud					93	2500	200								22	3105	200	5000	400	
4	Point Prim.					45	670	80						10	80	5	4200	2200	3000	40	
5	Rustico	1	10	200	5	90	2500	200	139	2500	680	4	1000	200	40	350			25000		
6	Charlottetown.					3	150	6	5	100	40						300		6	6	
7	Wheatley river					90	1700	150	7	125	100						3375	200		2	
8	Lot 65					35	300	60								2	1600			3	
9	Pownal					10	100	80									3000			10	
10	Bays and rivers.																				
Totals.		6	90	3400	25	571	14270	1071	600	10600	3620	8	1750	950	90	760	53	24880	7465	30000	884
Values																		33592	300	600	13200

RETURN showing the Kinds and Quantities of Fish and Fish Products in the County of Queen's, Province of Prince Edward Island, for the Year 1904.

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Number.	DISTRICTS.	KINDS OF FISH.															TOTAL VALUE OF ALL FISH.	Number.	
		Lobsters, preserved in cans, lb.	Lobsters, fresh in shell, cwt.	Cod, dried, cwt.	Cod, tongues and sounds, brls.	Haddock, dried, cwt.	Hake, dried, cwt.	Trout, lb.	Smelts, lb.	Alewives or gaspereau, brls.	Eels, brls.	Oysters, brls.	Clams, brls.	Squid, brls.	Fish oil, gallons.	Fish as bait, brls.			Fish as manure, brls.
Queen's Co.																			
1	Tracadie	153830	300	600	10	40	50	200	88000	200	1000	2100	5	25	165	2228	96	80,844 50	1
2	New London	77712	...	1000	10	20	50	500	18000	30	10	150	...	10	100	1435	48	33,497 00	2
3	Crapaud	41664	...	...	...	...	...	...	30000	...	...	...	...	...	...	1103	24	14,532 50	3
4	Point Prim	102144	...	...	...	...	60	200	28000	...	...	...	2	...	...	2450	60	34,729 00	4
5	Rustico	138872	400	1500	15	50	...	1800	32000	...	40	...	50	30	1000	2103	108	65,386 50	5
6	Charlottetown . . . . .	...	800	...	...	...	...	...	40000	...	...	...	10	...	...	...	...	7,800 00	6
7	Wheatley river.. . . .	...	...	500	5	...	...	200	10000	...	...	...	...	...	...	...	...	4,170 00	7
8	Lot 65	72240	...	...	...	...	...	500	60000	20	5	240	...	...	...	2516	36	25,932 00	8
9	Pownal	24672	...	...	...	...	...	...	300	12000	...	...	...	...	...	511	12	8,770 50	9
10	Bays and rivers. . . . .	...	...	...	...	...	...	1000	30000	...	10	500	50	...	...	200	...	18,200 00	10
Totals.		606234	1500	3500	40	110	110	4700	348000	250	10655	3505	117	65	1265	12546	384	...	...
Values.		8151558	10500	16200	400	330	247	470	17400	1000	10650	17525	468	260	379	18819	192	294,152 00	...

RETURN showing the Number, Tonnage and Value of Vessels, Boats, Nets, &c., in the County of Prince, Province of Prince Edward Island, for the year 1904.

Number.	FISHING VESSELS AND BOATS.						FISHING GEAR OR MATERIALS.						LOBSTER.		KINDS OF FISH.											
	Vessels.			Boats.			Gill Nets.			Seines.			Trawls.			Canneries.	Herring, salted, brls.	Herring, fresh, lb.	Herring, smoked, lb.	Mackerel, fresh, lb.	Mackerel, salted, brls.	Lobsters, preserved in cans, lb.	Lobsters, fresh in shell, cwt.			
	Number.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.											
Prince Co.																										
1	Tignish	87	3875	157	114	3280	760	2	900	900	10	50	12	5000	550	100	126320	1								
2	Nail Pond	36	2660	71	33	625	290	2	900	1000	3	42	5	4600	1180	85	15722	2								
3	Skinner's Pond	49	1290	68	57	1600	345	4	95	4	95	4	2700	214	1500	50	124804	3								
4	Mimungash	1	12	250	5	37	1235	80	116	3492	33	493	5	1550	363	151	55776	4								
5	Alberton	4	112	2400	20	50	1580	75	120	747	1685	25	75	6	1650	1113	32400	5								
6	Narrows Lot 11	35	875	50	20	600	150	30	650	30	650	30	650	30	900	45	25112	6								
7	Ellerslie Lot 12	8	400	30	75	525	187	1	50	350	350	1	50	350	350	2400	7									
8	Bideford	50	500	55	54	1380	675	3	300	350	350	3	300	350	350	11472	8									
9	Grand Rivers	2	37	700	9	38	1000	107	213	1228	799	15	30	4	950	30	11534	9								
10	Malpeque	2	30	900	6	170	3000	340	350	5250	1400	15	30	4	950	30	11534	10								
11	Richmond bay	3	30	900	6	170	3000	340	350	5250	1400	15	30	4	950	30	11534	11								
12	Roxbury Lot 6	92	3750	192	211	3570	792	20	7925	20	7925	20	7925	20	7925	254502	12									
13	Fifteen Point	5	300	10	8	240	50	2	700	400	200	2000	2000	2000	2000	12480	13									
14	Brae	4	450	18	25	1120	143	4	1300	60	25	6000	25	5000	2000	24048	14									
15	West Point	70	1050	135	134	480	402	480	402	480	402	480	402	480	402	24048	15									
16	Travellers Rest	4	125	6	8	200	48	4	125	6	8	200	48	4	125	6	2030	16								
17	Summerside	18	760	20	50	1500	300	6	2030	30	2000	30	2000	30	2000	15460	17									
18	Carleton	30	1825	60	76	1340	500	9	3000	50	3000	9	3000	50	3000	97240	18									
19	Tryon	40	400	60	50	1940	200	2	200	50	2000	50	2000	50	2000	27840	19									
20	Wellington	9	191	4250	40	889	25617	1604	1983	33637	10835	4	1800	1940	90	785	92	35455	400	4891	26000	2040	3500	1622	870210	33
Totals		9	191	4250	40	889	25617	1604	1983	33637	10835	4	1800	1940	90	785	92	35455	400	4891	26000	2040	3500	1622	870210	33
Values		8	80	22009	260	40	24330	217552	231		

RETURN showing the Number, Tonnage and Value of Vessels, Boats, Nets, &c., in the County of Prince, Province of Prince Edward Island, for the year 1904—*Continued.*

Number.	Districts.	KINDS OF FISH.												FISH PRODUCTS.			Total Value of All Fish.	Number.	
		Cod, dried, cwt.	Haddock, fresh, lb.	Haddock, dried, cwt.	Hake, dried, cwt.	Hake, sounds, lb.	Pollock, cwt.	Trout, lb.	Smelts, lb.	Alewives or Gaspe- reau, brls.	Eels, brls.	Oysters, brls.	Clams, brls.	Coarse and mixed fish, brls.	Fish oil, galls.	Fish as bait, brls.			Fish as manure, brls.
Prince Co.																			
1	Tignish	800	..	50	1000	2900	..	..	10000	..	..	..	..	..	200	3000	1115	47,690 00	1
2	Nail Pond	1250	..	600	700	400	..	..	..	..	..	..	..	..	600	1090	..	22,088 00	2
3	Skippers Pond	1630	..	..	50	100	..	500	12000	..	..	..	..	..	205	886	..	41,982 00	3
4	Mimingash	1355	..	..	634	1240	..	..	..	..	5	100	..	55	520	1200	..	28,752 50	4
5	Alberton	1469	..	..	..	..	..	100000	..	..	10	100	..	..	200	833	..	43,557 50	5
6	Narrows Lot 11	25	..	..	..	..	..	14000	..	..	..	..	..	..	700	700	..	8,343 00	6
7	Ellerslie Lot 12	75	..	5	20	..	15	20000	..	..	..	1100	..	..	50	1200	..	23,307 50	7
8	Bideford	..	..	..	..	..	..	7500	..	..	..	965	..	..	100	100	..	6,175 00	8
9	Grand Rivers	10	..	..	..	..	..	2500	..	..	5	1680	..	..	530	530	..	13,758 00	9
10	Malbecque	242	7000	..	..	..	..	500	30000	..	50	2220	..	..	90	250	..	18,487 00	10
11	Richmond bay	80	..	..	..	..	..	..	5300	..	2	3800	..	..	25	180	..	22,318 50	11
12	Roxbury Lot 6	1170	..	..	..	..	..	..	37400	..	11	277	..	..	..	..	..	8,805 50	12
13	Fifteen Point	..	..	..	..	..	..	..	..	..	..	..	..	..	4868	..	..	66,887 50	13
14	Brae	..	..	..	..	..	..	..	6000	10	5	454	100	..	..	300	..	6,710 00	14
15	West Point	20	..	..	..	..	..	..	4000	..	10	..	..	..	..	1240	..	8,382 00	15
16	Travellers Rest	12	..	..	..	..	..	..	..	..	..	2025	..	..	..	..	..	10,551 50	16
17	Summerside	..	..	..	..	..	..	..	30000	..	8	400	..	..	30	..	..	4,167 50	17
18	Carleton	..	..	..	..	..	..	600	20000	..	5	..	..	..	1120	..	..	6,810 00	18
19	Tryon	..	..	..	..	..	..	..	22200	..	..	..	..	..	1370	..	..	27,475 00	19
20	Wellington	40	..	..	..	..	..	..	16000	..	10	1500	..	..	20	600	..	16,671 00	20
Totals		8178	7000	655	2404	3740	15	1600	33690	10	121	14501	100	55	1910	19497	1115	..	..
Values		\$ 36801	210	1965	5409	1870	45	160	16845	40	1210	72505	400	110	573	29245	557	432,869 00	..

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RECAPITULATION by Counties showing the Number, Tonnage and Value of Vessels,

Number.	DISTRICTS.	FISHING VESSELS AND BOATS.								FISHING GEAR OR								
		Vessels.				Boats.				Gill Nets.		Seines.		Trapnets.		Trawls.		
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Value.	Number.	Value.
		£			£					£			£		£		£	
1	King's County..	20	460	9750	104	595	12800	1045	2105	37985	17080	.....	.....	180	360	219	2190
2	Queen's " ..	6	90	3400	25	571	14270	1071	600	10600	3620	8	1750	950	.....	90	760
3	Prince " ..	9	191	4250	40	889	25617	1604	1983	33697	10835	4	1800	1900	2	1500	90	785
	Totals.....	35	641	17400	169	2055	52687	3720	4688	82282	31535	12	3550	2850	182	1860	299	3735

RECAPITULATION by Counties showing the kinds and quantities of Fish and Fish

Number.	DISTRICTS.	KINDS OF FISH.													
		Salmon, fresh, lb.	Salmon, smoked, lb.	Herring, salted, brls.	Herring, fresh, lb.	Herring, smoked, lb.	Mackerel, fresh, lb.	Mackerel, salted, brls.	Lobsters, preserved in cans, lb.	Lobsters, fresh in shell, cwt.	Cod, dried, cwt.	Cod, tongues and sounds, brls.	Haddock, fresh, lb.	Haddock, dried, cwt.	Hake, dried, cwt.
1	King's County.....	6400	....	2850	694000	150000	2850	541	1024656	....	4333	30	2300	190	4040
2	Queen's " .....	.....	.....	7465	30000	.....	5000	884	606234	1500	3600	40	....	110	110
3	Prince " .....	....	400	4891	26000	2000	3500	1622	870210	33	8178	....	7000	655	2404
	Totals.....	6400	400	15206	750000	152000	11350	3047	2501100	1533	16111	70	9300	955	6554

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Boats, Nets, &c., in the Province of **Prince Edward Island**, for the Year 1904.

MATERIALS.						LOBSTER PLANT.					OTHER FIXTURES USED IN FISHERIES.							
Dip Nets.		Smelt Nets.		Hand Lines.		Canneries.		Traps.		Persons employed in canneries.	Freezers and Ice Houses.		Smoke and Fish Houses.		Piers and Wharfs.		Tugs, Steamers & Smacks.	
Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.		Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
	%		%		%		%		%			%		%		%		%
340	340	96	570	1215	2430	54	35650	117675	84000	919	1	2000	129	2400	19	1560	15	4000
.....	.....	369	4100	1400	700	53	24880	74240	41990	1031	1	1550	26	2600	26	2075	.....	.....
.....	.....	119	2670	514	341	92	35955	104060	68515	867	6	2305	9	2020	19	12200	.....	.....
340	340	584	7340	3129	3471	199	96485	295975	194595	2817	8	5805	164	7020	54	15835	15	4000

Products in the Province of **Prince Edward Island**, for the Year 1904.

AND FISH PRODUCTS.

Hake, sounds, lb.	Pollock, cwt.	Trout, lb.	Smelts, lb.	Alewives or gaspereaux brls.	Eels, brls.	Caplin.	Oysters, brls.	Clams, brls.	Tom Cod or Frost Fish, lb.	Squid, brls.	Coarse and Mixed Fish, brls.	Fish oil, galls.	Fish as bait, brls.	Fish as manure, brls.	Canned clams, cases.	TOTAL VALUE OF ALL FISH.		Number.
																\$	cts.	
8080	45	11800	54500	165	164	100	.....	44	2600	295	380	3560	11460	.....	420	351,525	50	1
3740	15	4700	348000	250	1065	.....	3505	117	.....	65	.....	1265	12546	384	.....	294,152	00	2
.....	.....	1600	336900	10	121	.....	14501	100	.....	.....	55	1910	19497	1115	.....	432,869	00	3
11820	60	18100	739400	425	1350	100	18006	261	2600	360	435	6735	43503	1499	430	1,078,546	50	

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RECAPITULATION

SHOWING YIELD and Value of the different Fisheries of the Province of Prince
Edward Island during the Year 1904.

Kinds of Fish.	Quantity.	Price.	Value.
		\$ cts.	\$ cts.
Salmon, fresh	Lb. 6,400	0 20	1,280 00
" smoked	Lb. 400	0 20	80 00
Herring, salted	Brls. 15,206	4 50	68,427 00
" fresh	Lb. 750,000	0 01	7,500 00
" smoked	Lb. 152,000	0 02	3,040 00
Mackerel, fresh	Lb. 11,350	0 12	1,362 00
" salted	Lb. 3,047	15 00	45,705 00
Lobsters, in cans.	Lb. 2,501,100	0 25	625,275 00
" fresh in shell	Cwt. 1,533	7 00	10,731 00
Dried cod	Cwt. 16,111	4 50	72,499 50
Tongues and sounds	Brls. 70	10 00	700 00
Haddock, fresh	Lbt. 9,300	0 03	279 00
" dried	Cwt. 955	3 00	2,865 00
Hake, dried	Cwt. 6,554	2 25	14,746 00
" sounds	Lb. 11,820	0 50	5,910 00
Pollock	Brls. 60	3 00	180 00
Trout	Lb. 18,100	0 10	1,810 00
Smelts	Lb. 739,400	0 05	36,970 00
Alewives	Brls. 425	4 00	1,700 00
Eels	" 1,350	10 00	13,500 00
Caplin	" 100	3 50	350 00
Oysters	Brls. 18,006	5 00	90,030 00
Clams	" 261	4 00	1,044 00
" in cases	Cases. 480	5 00	2,150 00
Tom cod	Lb. 2,600	0 03	78 00
Squid	Brls. 360	4 00	1,440 00
Coarse and mixed fish	" 435	2 00	870 00
Fish oil	Gals. 6,735	0 30	2,020 50
Fish as bait	Brls. 43,503	1 50	65,254 50
Fish as manure	" 1,499	0 50	749 50
Total 1904			\$1,078,546 50
" 1903			1,099,510 35
Decrease			20,963 85

SESSIONAL PAPER No. 22

RECAPITULATION

SHOWING the number and Value of Vessels, Boats, Nets, Lobster Canneries Traps, &c., used in the fisheries of the Province of Prince Edward Island and number of fishermen employed, season 1904.

Articles.	Value.	Total.
	\$	\$
35 fishing vessels (641 tons).....	17,400	
2055 fishing boats.....	52,687	
4688 gill-nets (82,282 fathoms).....	31,535	
12 seines (3550 fathoms).....	2,850	
182 trap-nets.....	1,860	
299 trawls.....	3,735	
340 dip-nets.....	340	
584 smelts-nets.....	7,340	
3129 hand lines.....	3,471	121,218
199 lobster canneries.....	96,485	
295976 lobster traps.....	194,505	290,990
8 freezers and ice houses.....	5,805	
164 smoke and fish houses.....	7,020	
54 piers and wharfs.....	15,835	
15 tugs, steamers and smacks.....	4,000	32,660
Total.....		\$444,868

Number of persons employed in the fisheries of Prince Edward Island :—

Men in fishing vessels.....	169
" " boats.....	3720
Persons in lobster canneries.....	2817
Totals.....	6706

APPENDIX No. 6.

PROVINCE OF QUEBEC.

REPORT ON THE GULF OF ST. LAWRENCE DISTRICT, INSPECTOR
W. WAKEHAM, M.D., GASPÉ BASIN.

INLAND DISTRICT, INSPECTOR A. H. BELLIVEAU, OTTAWA.

GASPE, P.Q., January 30, 1905.

To the Dominion Commissioner,
of Fisheries.

SIR,—I have the honour to submit the usual report, and statistics of the fisheries of the Gulf division for the year just closed. The returns show a decided falling off in almost all branches of the fishery, as compared with 1903. Fortunately for the fishermen, prices of all kinds of fish ruled high, so that they were quite compensated for the shortened catch. The season of 1904 has been rather a hard one for the people of the Gulf division, as with a short catch of fish they have also had to put up with a poor harvest, owing to the extreme dryness of the season all crops were a failure, and most particularly the hay crop. All along the south coast thousands of cattle had to be killed off and sacrificed as the owners had not the fodder necessary to keep them through the winter. In the case of the cod and herring fishery the shortened catch was due to natural causes. The constant rough weather kept these fish off shore, and at the same time prevented the fishermen from prosecuting the fishery as steadily as they usually do when the weather conditions are favourable. As regards the salmon fishery there is no doubt that on the south coast the great decrease in the catch was also due somewhat to the rough weather and the lowness of the water in the rivers during the netting season. The fish did not run in freely during the months of June and July, but there can be no question that most of the south shore salmon rivers have fallen off steadily during the last ten years. This decrease in the abundance of salmon is not so apparent in the larger rivers as in the smaller ones, but all are failing.

No similar decrease has shown itself in the north shore rivers below Manicouagan. The catch in the nets at some points along the north shore was something phenomenal, leading one almost to believe that some of the south shore fish had deserted their native waters, and taken to the rivers on the north coast.

The lobster pack also shows a decrease; while this may be in part due to the rough season, and to the fact that the time during which packing was allowed at the Magdalen Islands had been considerably curtailed, yet over all the rest of the coast it is perfectly plain to any one with ordinary intelligence that the fishery is steadily failing. As an experiment, packers were allowed to fish at the Magdalen islands for a month during the fall, it was only in places sheltered from north and westerly winds that this permission, was utilized. The larger packers did not reopen, though they in some cases may have aided some of the smaller cannerymen. The experiment was not a success, a good many of those who tried fall fishing will not do so again, the lobsters were not abundant, and were generally in poor condition.

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The mackerel fishing was also a poor one, though more mackerel were taken by herring fishermen all over the division than usual. The only distinct mackerel fishery now carried on is at the Magdalen islands, where the fishery was a poor one. Spring herrings were as abundant as usual, but during the rest of the season herrings were scarce. A part of the decrease in the codfishing can no doubt be attributed to the failure to obtain herring bait in shore. The outer bankers who take their bait by drifting on the banks where they fish for cod, did not complain of this scarcity of herring.

Dog-fish were not nearly as much of a nuisance this season as they were during the preceding three years. On many of the grounds where they formerly were abundant they were not found at all. All are sanguine that they may disappear as rapidly as they came, just as they did about forty years ago.

COD.

The cod fishery shows a falling off of about fifty odd hundredweight. This fishery was everywhere below the average. Bait was scarce and uncertain on the north shore as well as on the south. Squid were not abundant at any time and once the spring run was over, herring were never plentiful inshore. This scarcity of bait coupled with the rough weather disheartened the fishermen early in the season and the fishery was not prosecuted with the usual vigour. The younger men finding employment at the many public works conducted on the coast, and at the numerous mills, gave up the fishing long before the close of the season. The fishing is now generally abandoned at a much earlier date than formerly, as it has become the practice to open the lumber camps fully a month or six weeks earlier than was formerly the custom. Our large fishing concerns are finding it yearly more difficult to secure men for the fishing, and the number of boats fitted out at some of the larger stations, such as Percé, is not near half as considerable as it was twenty years ago. The Labrador fishery was also a poor one, the capelin school did not strike inshore as usual, this is attributed by the north coast and Newfoundland fishermen to the strong and constant westerly winds which prevailed in June and July. As I have before said, however, the price of cod ran up. Owing to the short catch, fish exporters found it difficult to fill their orders, and complete the cargoes of the vessels chartered, so that the competition for dry cod became keen, and the fishermen reaped the advantage.

SALMON.

The salmon net fishing shows a falling off of nearly 150,000 lb., most of this occurred on the south coast in Bonaventure and Gaspé counties. The rough weather and the low water in the rivers certainly did contribute to this diminution, but it is quite apparent that the south shore rivers are being fished beyond their capacity. This failure has been gradual, but it is steady, the decrease is not shown so clearly in the larger rivers, such as the Restigouche and Cascapédia, as it is in the smaller ones, such as those that empty into Gaspé bay, but it is there all the same. The St. John, York and Dartmouth rivers have not been heavily fished by their various sporting owners, and I do not think it can be said that they have been poached to any considerable extent in their fluvial portions, those parts guarded and controlled by their various owners or lessees. They are, however, and especially the York, greatly overnetted and it is quite clear, that in the face of this overnetting the artificial planting of fish is not keeping up the supply. This matter is one for the serious consideration of the department. The facts are there, that in spite of the efforts at fish culture the rivers mentioned are steadily failing for purposes of sport, while the catch in nets in Gaspé bay is much below what it formerly was when fewer nets were fished. The salmon net fishery on the upper north shore from Natashquan to Manicouagan was good, in some places phenomenally so, leading one almost to believe that perhaps the fish had deserted some parts of the south shore, and taken to the north. On the lower north coast, generally spoken of as the Labrador, the salmon net fishery was poor; only two of the rivers were fly fished, the Washecootai and the lower Romaine, they were only tried for a short season, but their owners were quite satisfied with their sport.

MACKEREL.

The mackerel fishery, carried on entirely at the Magdalen islands, shows a considerable falling off, only 2,334 lb. having been taken as compared with 10,201 lb. in 1903. The schools never come in shore, the fish taken were not as large or as fat as those usually taken about the islands during the late summer and fall fishing. There is no distinct mackerel fishery now carried on in the Gulf division except that at the Magdalen islands. Whatever mackerel are taken elsewhere are merely caught in the nets set for herring, a few mackerel were thus taken at various places in the division where they have not been found for several years. On the 2nd September I anchored off the bar at the mouth of the Nipisiquit river. I found a few boats out mackerel fishing they reported a fair show of mackerel, and we purchased from them several dozen of large fat fish.

LOBSTERS.

The returns from packers show that 848,634 lb. of lobsters were canned as against 978,434 lb. in 1903. The falling off was general on both shores of the division, at Anticosti and the Magdalen islands. The rough season in May and June undoubtedly militated against the fishery, as also did the fact that at the Magdalen islands the season was made to close on June 25, just as the catch was at its best. In return for this curtailment a month's fishing in the fall was allowed, as an experiment only, at the islands. This experiment was not a success, most of the large packers did not reopen for the fall month, and those who did pack found the lobsters scarce and poor in quality, thin, watery and empty. Only those who fished in localities sheltered from the north and westerly winds, which prevail in the autumn, ventured to put out traps. It is not likely that any serious demand will be made to continue the fall open season. A powerful steam launch has been placed at the Magdalen islands to enforce the regulation which prohibits lobster fishing in the lagoons at all seasons. There can be no doubt that these lagoons are the natural breeding ponds of the lobsters at the islands, the fairly good lobster fishing which is found at and about the islands, in spite of the undoubted overfishing in the past, is attributable to the protection which the closing of these lagoons has afforded, although considerable illegal fishing has been done in them. It is therefore to be hoped that the increased protection which this armed launch should give, will quite put an end to all illegal fishing in the lagoons.

HERRING.

The usual runs of spring herring were quite as abundant as ever. At the Magdalen islands they are taken for bait and for export, quite a number of vessels coming from Eastport and Lubec for cargoes which they purchase from the local seines and traps, and take home in bulk. These herring are landed and smoked, going into the states in United States bottoms, they pay no duty. Over 30,000 brls. are taken away from the islands each spring in this way. In the Bay of Chaleur the bulk of the herring taken in the spring is now used locally as manure, during the years of the Reciprocity Treaty with the United States the whole of the spring herring caught in the bay was exported to the United States. It was mostly shipped to Boston, finding its ultimate market, I believe, in the West Indies and Southern States, where this cheap, thin, roughly salted fish is consumed by the negro population. It was worth locally, ready for shipment, about \$2 per brl. The abrogation of the treaty, and the imposition of a duty of \$2, killed this trade at once. For several years, not knowing what to do with this fish, the fishery was abandoned, then it became gradually the custom to take them for manure, and those who had been taking the herring for export gradually began to cultivate more land, and used the fish for manure, principally for potatoes.

Complaints have many times been made against this practice, and at first I was disposed to advise having it stopped, and actually did so advise, but on going closely into the matter with the people, who claimed that they had simply changed their market, and knowing also that there was no appreciable diminution in the bulk of the herring coming into the bay to spawn each spring, I changed my mind, and as long as

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there is no evidence of a falling off in the volume of the spring fish, I do not see that we need interfere with the practice, though at the first blush it does seem to be a wrong one.

Herring are undoubtedly becoming scarcer in shore in the summer than they used to be, and it is each year becoming more difficult to get sufficient herring to bait the inshore cod fishing boats. The off shore boats, known locally as tankers, which mostly carry their own nets and drift for their bait on the banks, do not however experience the same difficulty in finding herring. There is a great deal connected with the movements of the herring after the spawning run is over that we knew nothing about. They come in shore each spring in enormous quantities, the waters are almost solid with them. They deposit their spawn, remain about for a couple of weeks, and disappear. Where they go to, we have not the remotest idea. The eggs hatch out very quickly and the young also disappear, we find very few small or immature herring. The fat herring caught during the summer and fall are not the same fish that spawn in the spring, as they are much smaller. Though we take, for all purposes, each spring in the gulf division, about 150,000 brls., yet this quantity, great as it seems, is only a drop in the bucket compared with the enormous volume of fish which comes into the gulf in April and May. These fish spawn in very shoal water, and when we have strong on shore winds large quantities of spawn are thrown on the beaches. It is claimed by some that we should have men stationed to shovel these spawn back into the water, that by doing so, a considerable percentage of it would be developed. I do not think it would be possible to get very much of it back into the water in time for it to be saved. A very short exposure out of water must destroy it, it could not be shovelled back until the swell which cast it ashore had subsided, in the meantime the mass of it would surely have lost its vitality. This is a matter, however, which our scientific authorities should be able to settle for us. At present the custom is to cast this spawn on to the land where it is used as a fertilizer.

I beg to append synopses of the reports of some of the local fishery officers.

George Forest, reports for the subdivision extending from Maguacha to Paspebiac Point, that spring herring were abundant all along the coast, but that only 20 brls. of fall fish were taken. The salmon fishing with nets, and for sport in the rivers, was not as good as usual. The lobster fishing was fair considering the short season, and the small number of fishermen engaged. Cod as well as bait was scarce all through the summer season, during much of the time the only bait to be had was that from the freezer. It was impossible to do much fishing in the fall owing to rough weather. The dog-fish interfered greatly with the fishing between the 15th July and the 15th September.

F. X. Chapados, reports for the coast between Paspebiac and Point Macquereau. Spring herring struck as early as the 15th April, and were abundant all along the coast. Lobster fishing began on the 1st May, the returns show a slight increase in the pack over the previous year. The returns from the salmon fishery show a decrease. Cod fishing began on the 25th May and continued good up to the 1st July, when the bait failed. Cod were abundant all season when bait could be had. Squid came in about the middle of July, but they were followed by the dog-fish, and driven off the coast. No fall herring were taken.

Louis Letourneau, reports for the subdivision extending from Cape Magdalen to Glaude, that salmon were not as abundant as in 1903, but owing to the rise in price the fishermen really did better with the smaller catch, the salmon were late in entering the rivers, but seemed to be as numerous as usual in the pools. No mackerel were taken this year. Cod were not taken until the first week in June, the yield is below that of last season, this was due to the failure of bait from July on. The squid never come near the coast. For fully six weeks during the best of the fishing season the cod retired into deep water, from 60 to 80 fathoms, at which depth most of the fishermen of this coast are not rigged to catch them.

Spring herring were very abundant, fall herring were scarce, only about half the usual catch having been made. The dog-fish visited the coast for a short season, and interfered seriously with the fishing. A considerable fishery for turbot is now made in deep water, this fish finding a ready market in Quebec and Montreal. Though the fishery was

below the average, the higher prices given for all kinds of fish, have made the season a good one to the fishermen.

Overseer Procule Chevrier, reports for the northern half of the Magdalen islands, that 3,000 seals were taken at Bryon island, on the shore ice from the 10th to the 20th March, after this off shore winds kept the ice too far off for the hunters to venture after them. Owing to the presence of ice the spring herring fishery was late in beginning but the herring were abundant, and the catch was good. Cod struck about the 1st of May, and though the yield is below that of the previous year, yet the increased price paid has given larger returns to the fishermen. The lobster fishery began much later than usual, the ice having jammed inshore until the 20th May, so that it was impossible to put out the traps, the fishery ended by the new regulations on the 25th June, giving actually only 16 days of fishing, as a consequence the pack is much below an average. The fall fishing, allowed during the end of September and part of October, by no means made up for the spring failure.

Owing to unfavourable winds the spring mackerel fishery was a failure, the returns for the fall mackerel fishery also show a serious decrease, the fishermen attribute much of this to the ravages of the dog-fish.

Overseer Jos. Chevrier, reports for the southern half of the Magdalen islands. That the spring seal hunt was a failure owing to the ice keeping off shore in March and April. Spring herring were abundant, and yielded a good return to the fishermen. Both the spring and summer mackerel fisheries failed, this was due, in the opinion of the fishermen, to the prevailing winds which kept the fish out of Pleasant bay. The cod fishery was good, and the prices paid were highly satisfactory. The lobster fishery, which was this year divided into two distinct fishing seasons one in the spring and the other in the fall, was a failure. The spring season was too short, and most of the packers would not reopen for the fall one. In the greater part of this division of the islands it is impossible to fish in the fall, those who did try the fishing found the lobsters scarce, and of poor quality. Mr. Chevrier favours only one season from the 20th April to the 15th or 20th July. Special guardians were kept on the lagoon to the 15th November and no poaching was done in them.

Overseer T. Migneault reports for the Moisie subdivision that the first salmon was taken in the Moisie estuary on the 24th May. The best of the fishing was made between the 6th and the 10th July. The fishery closed on the 23rd July, when all nets were out of the water. The fishery was a good one, 213,186 lb. having been taken in the subdivision, 295 fish were taken with the fly in the river Moisie by five rods. The cod fishery shows a decrease, this was due to bad weather, and the scarcity of bait. Herring were only taken in the spring. A whaling station is under construction on the west shore of Seven Islands bay, it is proposed to have it in full operation during the coming season when employment will be given to upwards of 100 men. A very large number of men are also employed at the pulp mills now under construction at Ste. Marguerite river. As these men were all formerly engaged in the fishery it follows that not nearly so many boats are employed in fishing as formerly, which accounts for the decrease in the yield of the deep-sea fisheries on this part of the coast.

Before concluding this report I desire to call the attention of the department to the absolute necessity of providing a new ship for the work of the Gulf division. Though *La Canadienne* has for the past 24 years proved herself a good ship, yet she was never the vessel actually required for the work, being too weak powered and slow. The extent of coast which we have to patrol, comprising as it does the Bay of Chaleur, both sides of the St. Lawrence below the Saguenay, the coast of Labrador to Belle Isle, besides the waters about Anticosti and the Magdalen islands, is so great that it requires a much faster ship than *La Canadienne* to visit it all as frequently as should be done. Most of the modern fishing schooners can easily outail her, while the whaling steamers now in use about the gulf can steam round her. The fishery protection ship in the gulf is frequently called upon to render help to vessels in distress, and *La Canadienne* has not the power requisite to do this efficiently. *La Canadienne* while not fit for the fisheries protection work, which she has to do, is still a useful ship for other services, such as lighthouse duty or surveying. She has a small consumption of fuel, carries a

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arge supply of fresh water, and is a good sea boat, and can remain at sea for a considerable time without returning to port to refit. The action of the government of Newfoundland in prohibiting the sale of bait to United States fishing vessels, must drive a much larger number of these vessels into the gulf in search of bait, it is useless to attempt to follow them with *La Canadienne*. The importance of the work to be done in the gulf division, whether, it be the purely fisheries protection work, or the equally important service of rendering aid promptly, and efficiently to vessels in distress, urgently demands that we have a ship amply fitted to cope with the conditions, from the opening of navigation to its close the fisheries protection ship in the gulf is crossing its waters in all directions, she should be a stout, able vessel, fit to face any weather, for she is always liable to be caught out, and is always the nearest available ship in case of accident in the gulf, and more especially at Anticosti, the Magdalen islands, or the north coast and strait of Belle Isle. For all these reasons I must most strongly urge on the department that provision be made as soon as possible, for replacing *La Canadienne* with a more suitable ship.

I have the honour to be, sir,
Your obedient servant,

W. WAKEHAM,
Officer in charge of the Gulf Division Fisheries.

REPORT ON THE FISHERIES OF THE INLAND DISTRICTS OF QUEBEC
FOR THE YEAR 1904, BY INSPECTOR A. H. BELLIVEAU.

OTTAWA, 1st March, 1905.

To the Dominion Commissioner of Fisheries.

SIR,—For more convenience to establish comparisons in the yields of the different kinds of fish with those of previous years, the old subdivisions have been, as much as possible, adhered to, even when under different officers.

Statistics.—Where no commercial fishing is carried on, the collection of statistical data is becoming more and more difficult and less reliable from one season to another. This is more the case since the Quebec government do not exact such information from their officers. Now that one government issues the fishing permits and another requires the statistical statements of catch, &c., the fisherman should no longer hesitate to answer as accurately as possible. The fear of an increased license fee, if a large yield of fish is returned, has not now its *raison d'être*. However, it is quite a task to impress the suspicious fisherman with the idea that these figures are only sought for the purpose of a collective publication to better demonstrate the productiveness of our Canadian waters.

The yield of fish is steadily declining in these inland districts of the St. Lawrence and its tributaries. The total value has now dwindled below the hundred thousand dollar mark. This is a diminution of 15 per cent as compared with the product of 1903, which was also over \$15,000 less than that of the previous year. At that rate of decrease, it will soon reach the minimum. Fishermen generally complain that the better grades of fish are being superseded by the coarser species of the fishing tribe. Fortunate are the residents within easy access of town and city markets where good prices are still realized even for their inferior coarse fish.

In the *Ottawa subdivision*, comprising the counties of Labelle, Wright and Pontiac, the general yield falls short of the previous one. And this result, notwithstanding the larger catch of the Temiscamingue waters, where commercial fishing with pound-nets has

been attempted on a large scale. It is to be hoped that the investment will prove fruitless, or that the provincial authorities will soon cancel such extensive privileges granted recently to non-residents on Lake Temiscamingue. Otherwise there will soon be no fish left for the settlers of its shores. It is improvident to grant such extensive privileges for such destructive engines as pound-nets in so limited an area.

In the *Three Rivers division*, the reduced value given is partly attributed to the almost total disappearance of the *petite morue*, tom-cod, which, in past years, constituted one of the chief items in the fish production of that district. Different causes have been alleged by interested parties, for this apparent desertion of the tom-cod from its former haunts to the St. Maurice, but the most acceptable seems the constant over fishing of this frisky little fish on its way to its spawning grounds. Should this failure assume a permanent character, it will be a regrettable incident, as this apparently insignificant industry was quite a boon to the poor fishermen in the middle of winter, at a time when expenses are high and labour remuneration low.

Missisquoi bay.—The waters of Missisquoi bay, the upper part of Lake Champlain, and Richelieu river, its outlet, seem to better hold their own respecting the fish supply than any other part of my district. Signs of serious depletion are not yet conspicuous in these waters as elsewhere. In the bay, fishing began about the 6th March and ended the 10th April, about five weeks.

The last week allowed for fishing was unfavourable to seining, the ice had left the shores, but not sufficiently to allow the drawing of seines by boat. However, the fishermen's loss was the fishes gain, for it is during this last week, that more pickerel are captured.

During those few weeks, the product of the fifteen seines, licensed in the bay, aggregated over \$7,000 to their owners. The catch, sorted in three parts, pickerel, perch and others, all classes as mixed fish, is entirely shipped to New York markets in first class condition, being only a few hours in transit. The high price realized for these coarse fish is, no doubt, the great inducement to the strenuous efforts made by interested parties to continue the seining privilege. As much as sixteen dollars for a barrel of iced perch and over thirty for one of pickerel or wall-eyed pike, is often quoted, while as much as thirteen is paid for the mixed fish. At such prices, reasonable wages could be made for coarse fish alone. Leaving pickerel out of the question, the more perch and suckers taken out of the lake, the better for the game fish.

In the *Richelieu river*, between Lacolle and Chambly, the returns show a slight improvement over those of the previous season. The largest eel weirs in Canada are situated in this stream near Iberville. They yielded fairly well and good prices were obtained on the Fulton market for the eels, where they seem in great demand by a certain class of customers. Some of the eels are still alive when they reach their destination. Perch and bullhead are also caught in large quantities in this division and disposed of at remunerative prices. Hoop-net (*verveux*) fishing and night lines are the principal modes of catching fish here. Each fisherman is limited to four nets and they are all of regulation mesh and size. They are well supervised by the local provincial overseer. It may be partly attributed to this fact, that the depletion of fish is less pronounced in this than other districts where the regulations have been more or less ignored.

In the *Eastern Townships*, fishing was not up to the average. Anglers everywhere in the vicinity complained that bass and pickerel were specially scarce and few were hooked. While no netting permits are issued in these beautiful lakes, it is beyond a doubt, that much of it is carried on surreptitiously either by settlers in the vicinity for their own use, or by hardened poachers who dispose of their illegal gain in neighbouring towns across the border. The local protection of these waters is inadequate to their importance. Because there is yet but little revenue derived there, it is no reason why efficient wardens should not patrol and guard these beautiful natural spawning grounds from the nefarious poachers. When residents of a locality become interested and form fish or game protective clubs, especially if assisted by the authorities, they then exercise a desirable supervision conducive to beneficial results.

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Such beautiful sheets of water as Lakes Memphremagog, Little Magog, Brome, Brompton, Massawippi, Aylmer, St. Francis and Megantic, if properly guarded and stocked would soon become a great source of revenue to the community at large, but especially to the neighbouring residents receiving the numerous tourists and sportsmen who would soon resort thither for their health and amusements. With all the past netting, &c., it is wonderful that there are still some fish left in some of the lakes mentioned.

The Upper Saguenay.—In that part of my district on the north shore below Quebec to the Upper Saguenay, with the exception of eel, which were quite plentiful during last season, the other fisheries are gradually diminishing.

This was specially felt in the hundred *peches-anglaises* surrounding Ile d'Orleans where the chief item of the catch now consists of eels. A few salmon were captured last year in some of these weirs.

Beside the anglers' take of salmon, the remainder of the catch from the upper Saguenay is the estimated illegal capture by poachers who, in those remote localities, are a hard lot to cope with. Fishery officer Maher, of Tadoussac, was again on duty with his steam yacht, but effected less seizures of nets than during the previous seasons. It is almost impossible to bring the culprits to justice as they are generally masked and flee to the woods when pursued.

In Lake St. John fishing was carried on even more extensively than usual. A couple of individuals with tugs and numerous nets attempted commercial fishing, but it is very doubtful if the venture proved remunerative. It is true that this lake is large, (being twenty-seven miles across and nearly round) receiving the waters of many important tributary streams, but it seems injudicious to permit the unrestricted use of nets therein for commercial purposes. To supply the home consumption of the neighbouring settlers would tax it sufficiently. The famous Ouananiche is certainly becoming less abundant from year to year notwithstanding the efforts of those who are striving to restock those waters by artificial means. This scarcity cannot be entirely ascribed to netting in the lake, as it appears that very few are meshed in the set nets. The seining of small tributaries where these gameful fish resort to spawn might constitute a serious abuse. It is to be hoped that the authorities will curtail this netting for commercial purposes and reserve these grounds for the domestic use of resident settlers.

Now in view of the fact that this falling off in the fish supply can be safely ascribed to past overfishing with defective or small meshed implements, it might still be possible to enact regulations to at least partly remedy the evil. When sturgeon under nine inches are brought to market as well as other species requiring twenty fish to the pound openly exposed for sale, it seems high time to check such intentional ignorance of mature fish. If a minimum size of all fishes the authorities wish to protect, were adopted and enforced, this bold exposure of immature fish would soon cease. Numbering and marking all licensed implements would also have a good effect of enabling the officers to detect illegal engines.

I have the honour to be, sir,

Your obedient servant,

A. H. BELLIVEAU.

PROVINCE OF QUEBEC Gulf of St. Lawrence—District No. 1.
Return showing the Number, Tonnage and Value of Vessels, Boats, Nets, &c., also the Kinds of Fish caught in the County of Bonaventure, Province of Quebec, for the Year 1904.
RESTIGOUCHE SUBDIVISION (Maguacha to Head of Tide).

Number.	Districts.	Fishing Vessels and Boats.						Fishing Gear or Materials.						Lobster.		Kinds of Fish.						
		Vessels.			Boats.			Gill Nets.			Seines.			Trawls.		Canneries.	Salmon, fresh.	Herring, salted, lbs.	Herring, fresh, lb.	Herring, smoked, lb.	Number.	
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Value.	Fathoms.	Number.	Value.	Fathoms.	Number.							Value.
1	Restigouche...	20	375	20	3500	...	...	...	...	...	...	...	...	...	...	30000	50	8000	1

BONAVENTURE SUBDIVISION (Maguacha to Paspébiac Point).

1	Magnucha and Nouvelle.	56	1000	112	150	2900	1450	3	100	65	.....	.....	.....	.....	.....	8500	200	6000	25000
2	Carleton	150	1800	300	420	8200	4100	6	190	150	.....	.....	.....	.....	.....	13500	225	7000	6000
3	Maria	160	240	320	450	8500	4250	5	150	125	.....	.....	.....	.....	.....	20700	600	8000	8000
4	New Richmond and Black Capes.	195	1600	190	190	3500	1750	.....	.....	.....	.....	.....	.....	.....	.....	8000	400	3000	3000
5	Caplin.	200	3200	400	600	11000	5500	5	150	125	.....	.....	.....	.....	.....	.....	700	6000	7000
6	Bonaventure.	325	4500	650	1150	21000	10500	50	1400	1400	15	150	1	300	6500	400	5000	8000	6	
7	New Carlisle.	35	750	110	115	2200	1100	12	400	400	600	100	4000	3000	7
8	Paspébiac.	30	200	6500	400	200	3900	1950	60	1900	1900	100	1200	200	4500	2000	8
Totals.		5	290	5000	.....	.....	30600	141	4290	4165	115	1350	2	700	57800	2825	45500	20500	.....

PORT DANIEL SUBDIVISION (Paspébiac Point to Point Macquereau).

1	Hopetown	76	2840	130	110	2500	1470	13	345	465	40	810	2	600	1200	300	...	3000	1
2	Novelle	93	2790	139	105	2000	1580	15	395	512	30	700	...	...	1000	300	...	4000	2
3	Shigawake	44	750	65	80	1600	950	9	310	400	15	500	1	300	1500	200	...	5000	3
4	Port Daniel	190	5850	280	350	7000	5650	22	740	900	130	2020	4	1550	21000	400	...	8000	4
5	Anse à Gascons	195	7760	288	412	8250	6500	18	5500	760	150	3000	2	400	4000	600	...	...	5
	Totals	598	19990	922	1057	21350	16210	77	2340	3037	365	6830	9	2850	27800	1800	...	18000	...

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RETURN showing the Kinds and Quantities of Fish and Fish Products in the County of Bonaventure, Province of Quebec for the Year 1904.

RESTIGOUCHE SUBDIVISION (Tide Head to Maguachia).

Number.	Districts.	Kinds of Fish.													Fish Products.			Total Value of All Fish.	Number.
		Lobsters, fresh, in shell cwt.	Cod, dried, cwt.	Cod, tongues & sounds, brls.	Hadlock, fresh, lb.	Hadlock, dried, cwt.	Hake, dried, cwt.	Halibut, lb.	Trout, lb.	Smelts, lb.	Pels, brls.	Tom cod or frost fish, lb.	Squid, brls.	Fish oil, galls.	Fish as bait, brls.	Fish as manure, brls.			
1	Restigouche.	5								6000	190000	10	20000				500	cts. 17,380 00 1	

BONAVENTURE SUBDIVISION (Maguachia to Paspébiac Point).

1	Maguachia and Nouvelle	6	140	6000						600		7					10000	8,680 00 1
2	Carleton.....	500	25	3000						200		5					12000	10,582 50 2
3	Maria.....		20	4000			10			4000	1600	20	2200			75	8000	12,673 50 3
4	New Richmond and Black Capes		5	3000						12000		15					6000	8,312 50 4
5	Caplin.....		10	8000			10			600						600	250	14,685 00 5
6	Bonaventure.....	6720	30	10000			75	44	800	10000	4000	19	4000			12000	7000	23,114 00 6
7	New Carlisle.....		15	5000			10			400							15000	9,140 00 7
8	Paspébiac.....	4	3500	8000			150	54	1550	500	28000	3	2500			1800	900	33,646 50 8
	Totals.....	7220	115	47000	10	7725	245	108	2350	28300	33600	69	8700		3675	1925	92000	120,834 00

POINT DANIEL SUBDIVISION (Paspébiac Point to Point Macqueran).

1	Hopetown.....	1650		1500						2000							2000	11,912 50 1
2	Nouvelle.....			1800	7				250	3000						4000	200	13,635 00 2
3	Shigawake.....	9200		600	4			50		2000	3000					1200	400	13,635 00 3
4	Port Daniel.....	24000		3000	10			250		3000	2500					500	200	8,475 00 4
5	Anse à Gascons.....	4700		4500	20			300		3200	15000					2000	700	32,065 00 5
	Totals.....	38550		11400	41		1150		13200	10700	17000		11500	430	7700	3600	10400	97,372 50

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RETURN showing the Number and Value of Vessels, Boats, Nets, &c., also the Kinds

GRAND RIVER SUBDIVISION

Number.	DISTRICTS.	FISHING BOATS.			FISHING GEAR OR MATERIALS.							
		Boats.			Gill Nets.		Seines.		Trawls.			
		Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Value.
	<i>Gaspé Co.</i>		\$				\$			\$		\$
1	Newport	145	6080	435	300	6000	3000	3	120	150	140	1400
2	Pabos	49	3820	133	90	5290	1750	4	170	155	29	570
3	Grand River.....	95	6500	388	330	7560	3770	2	45	35	90	1800
4	Cape Cove	150	7000	394	350	8130	3500	9	340	275	74	1400
5	Percé and Bonaventure island. ...	69	3345	174	211	4200	870	3	140	100	4	400
6	Corner of Beach.....	36	860	36	32	640	320	12	420	360	.....	.....
	Totals.....	544	27605	1560	1303	31840	13210	33	1235	1075	337	5210

GASPÉ BAY SUBDIVISION

1	Mal Bay	200	12000	230	125	2500	2000	15	260	260	.....
2	Point St. Peter	70	1800	110	50	1000	750	5	125	125	.....
3	Chien Blanc to Sandy Beach	200	7500	190	210	4200	3000	15	260	260	.....
4	Gaspé North and South	50	1000	60	100	2200	2000	30	1750	1750	.....
5	Peninsula and Little Gaspé	75	1500	110	110	2200	2000	3	75	75	.....
6	Grande Grève and Ship Head	80	1600	100	75	1500	1200	10	250	250	.....
7	Cape de Rosier to Jersey Cove	230	4600	120	115	2300	1150	2	40	40	.....
8	Griffin	150	3000	150	175	3500	1750	2	40	40	.....
9	Big and Little Fox river	210	4200	220	260	5200	2600	4	100	100	.....
10	Little Cape to Echourie	75	1500	75	75	1500	750	1	20	20	.....
11	Point Jaune to Fame Point	55	1100	70	50	1000	500	1	20	20
	Totals	1395	39800	1435	1345	27100	17700	88	2940	2940	...

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of Fish Caught in the County of Gaspé, Province of Quebec, for the Year 1904.

(Point Macquereau to Mal Bay).

LOBSTER.		KINDS OF FISH.											TOTAL VALUE OF ALL FISH.		Number.
Caneries No.	Value.	Salmon, fresh, lb.	Herring, salted, brls.	Lobsters, preserved in cans, lb.	Cod, dried, cwt.	Cod, tongues and sound, brls.	Haddock, dried, cwt.	Hake, dried, cwt.	Trout, lb.	Smelts, lb.	Fish oil, galls.	Fish as bait, brls.			
	\$												\$	cts.	
2	400	1800	118	10000	4600	.....	315	10	.....	.....	3750	720	27,263	50
1	100	19700	68	4800	1800	.....	53	.....	.....	5000	1200	350	14,840	00
2	400	3000	167	.....	11690	16	90	25	.....	5000	6000	2730	60,587	75
1	1000	.....	318	25000	9800	7	181	.....	.....	.....	6700	2600	58,304	00
2	1000	.....	136	16030	5360	.....	20	20	.....	.....	3000	1900	31,244	50
1	300	21300	32	9456	1120	.....	.....	.....	.....	.....	800	112	12,216	00
9	3200	45800	839	65286	34370	23	659	55	.....	10000	21450	7512	204,455	75

Mal Bay to Fame Point).

1	400	3000	50	7500	7000	.....	.....	.....	.....	2000	5000	900	37,150	00	1
.....	.....	.....	50	.....	3750	.....	.....	.....	.....	.....	2750	450	18,600	00	2
3	600	15000	70	10000	3000	.....	.....	.....	.....	.....	2600	400	20,695	00	3
.....	.....	25000	.....	.....	.....	.....	.....	.....	5000	17500	.....	.....	6,375	00	4
.....	.....	26000	.....	.....	700	.....	.....	.....	.....	.....	350	100	8,605	00	5
.....	.....	3000	30	.....	2500	.....	.....	.....	.....	.....	1400	350	12,930	00	6
1	400	.....	100	3500	5000	.....	.....	.....	.....	.....	3000	750	25,850	00	7
.....	.....	.....	50	.....	5000	.....	.....	.....	.....	.....	3000	750	24,750	00	8
.....	.....	.....	120	.....	6000	.....	.....	.....	.....	.....	3500	800	29,790	00	9
.....	.....	.....	35	.....	1200	.....	.....	.....	.....	.....	750	160	6,022	50	10
.....	.....	.....	50	.....	1300	.....	.....	.....	.....	.....	760	170	6,558	00	11
5	1400	72000	555	21000	35450	.....	.....	.....	5000	19500	23110	4830	197,325	50	

5-6 EDWARD VII., A. 1906

RETURN showing the Number and Value of Boats, Nets, &c., also the Kinds of

MONTS LOUIS SUBDIVISION

Number.	DISTRICTS.	FISHING BOATS.			FISHING GEAR OR			
		Number.	Value.	Men.	Gill Nets.			
					Number.	Fathoms.	Value.	Number.
	<i>Gaspé Co.</i>		<i>£</i>				<i>£</i>	
1	Grand Etang to Chlorydorme.....	67	2775	115	222	6600	4550	3
2	Petite Anse and Frigate Point.....	37	700	55	95	2550	1500	.....
3	Great and Little Vallée.....	48	2000	82	115	3475	2150	1
4	Magdalen,	30	550	42	60	1990	900	.....
5	Manche d'Épée and Gros Mâle.....	53	600	76	100	2700	1500	.....
6	Anse Pleureuse and Mont Louis,	64	2350	95	190	5700	4500	2
7	Rivière à Pierre and Glaude	54	625	75	100	3000	1900	.....
	Totals.	353	9600	540	882	26015	17000	6

STE. ANNE DES MONTS SUBDIVISION

1	Marsouis and Martin River.....	15	300	30	30	600	300	.....
2	Cap au Renard to Ste. Anne's.....	130	1260	200	200	4000	2400	.....
3	Ste. Anne and Cape Chatte	70	1050	90	60	1200	750
	Totals.....	215	2610	320	290	5800	3450

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Fish caught in the County of Gaspé, Province of Quebec, for the Year 1904.

Fame Point to Claude River).

MATERIALS.		LOBSTER PLANT.		KINDS OF FISH.										TOTAL VALUE OF ALL FISH.	
Seines.		Canneries.		Salmon, fresh, lb.	Herring, salted, brls.	Cod, dried, cwt.	Cod, tongues and sounds, brls.	Halibut, lb.	Trout, lb.	Fish oil, galls.	Fish as bait, brls.	Fish as manure, brls.			Number.
Fathoms.	Value.	Number.	Value.												
	\$		\$										\$	cts.	
110	80	1	400	1000	175	4865	7	1600	....	4000	1500	200	26,660	00	1
.....	.....	.....	.....	.....	80	1370	3	11200	....	1200	490	100	8,820	00	2
30	25	.....	.....	800	60	1670	4	14000	....	1300	600	120	10,735	00	3
.....	.....	.....	.....	2700	25	480	.....	2000	....	300	180	20	3,382	50	4
.....	.....	.....	.....	900	150	1125	.....	12500	....	1000	350	30	8,067	50	5
60	50	.....	.....	5700	950	1030	10	9000	....	750	340	120	11,845	00	6
.....	.....	.....	.....	4900	980	580	.....	6500	....	400	140	60	9,010	00	7
200	155	1	400	16000	2420	11120	24	56800	....	8950	3600	650	78,460	00	

(Claude River to Cape Chatte).

.....	.....	.....	.....	750	200	200	.....	2000	.....	100	50	.....	2,255	00	1
.....	.....	.....	.....	10000	1000	1750	.....	7000	2500	875	350	150	16,187	50	2
.....	.....	.....	.....	3500	700	900	.....	6000	3000	450	200	300	9,385	00	3
.....	.....	.....	.....	14250	1900	2850	.....	15000	5500	1425	600	450	27,827	50	

RETURN showing the Number, Tonnage and Values of Vessels, Boats and Fishing Materials, &c.—Province of Quebec—Continued.

County of Gaspé—Continued.

MAGDALEN ISLANDS SUBDIVISION—SOUTH.

Number.	Districts.	FISHING VESSELS AND BOATS.				FISHING GEAR OR MATERIALS.						LOBSTER.					
		Vessels.		Boats.		Gill Nets.		Seine.		Trap Nets.		Canneries.					
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Value.	Number.	Value.	Number.	Value.			
<i>Gaspé Co.</i>																	
1	Entry island	7	120	3200	34	7	200	21	90	1900	500	...	...	...	1	50	1
2	Anfurst island .....	...	...	...	...	171	6130	466	2316	41060	5730	...	...	...	4	6325	2
3	Grindstone island .....	...	...	...	...	221	16830	631	220	4330	1130	...	...	...	10	3600	3
Totals		7	120	3200	34	399	23160	1118	2626	47350	7360	14	2060	4940	15	10175	

MAGDALEN ISLANDS SUBDIVISION—NORTH.

1	All Right island.....	2	42	1000	9	112	2240	240	84	25200	6720	...	7	6000	7	5000
2	Grand entry.....	...	...	...	...	26	520	78	13	1200	344	...	8	4400	10	4500
3	Grosso isle.....	...	...	...	...	17	340	51	4	120	32	...	5	3000	9	2000
4	Byron island.....	...	...	...	...	3	60	5	5	150	40	...	1	600	3	3000
5	Wolf island.....	8	160	24	8	240	68	1	500
Totals.....		2	42	1000	9	166	3320	388	114	27000	7204	...	21	14000	30	15000

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RETURN showing the Kinds and Quantities of Fish and Fish Products, in the County of Gaspé, Province of Quebec—Continued.

MAGDALEN ISLANDS SUBDIVISION—SOUTH.

Number.	DISTRICTS.	KINDS OF FISH AND FISH PRODUCTS.															Seal skins No.	TOTAL VALUE OF ALL FISH.	Number.
		Herring, salted, brls.	Herring, fresh, lb.	Herring, smoked, lb.	Mackerel, fresh, lb.	Mackerel, salted, brls.	Lobsters preserved in cans, lbs.	Cod, dried, cwt.	Cod, tongues and sounds, brls.	Halibut, lb.	Smelts, lb.	Eels, brls.	Clams, brls.	Fish oil, galls.	Fish as bait, brls.	Fish as manure, brls.			
1	Gaspé Co.	80	18700	21000	847	100	17196	20	20	4500	40	40	160	10	30	800	45,027 00	1	
2		2542	18700	24000	1328	1000	2400	4832	26	4500	40	40	160	2446	1072	800	53,833 44	2	
3		2168	12000	12000	1328	1028	137136	3278	16	3200	25	25	200	1639	2000	275	79,649 56	3	
	Totals.	4790	30700	310732	2175	2128	310732	8190	62	7700	65	65	360	4065	3122	1075	178,510 00		

MAGDALEN ISLANDS SUBDIVISION NORTH.

1	All Right island	6000	21000	21000	500	143	63792	525	18	3000	25	25	100	200	2000	600	49,880 50	1
2	Grand entry	5000	21000	21000	500	143	107904	208	10	3000	25	25	40	100	2200	150	56,892 00	2
3	Grosse isle	1000	8000	8000	500	30	48144	60	10	3000	25	25	30	100	1000	100	18,915 00	3
4	Byron island	800	8000	8000	500	6	48000	130	4	3000	25	25	25	100	1000	100	23,610 00	4
5	Wolf island	500	5000	5000	500	27	10000	130	4	3000	25	25	25	100	1000	100	6,638 00	5
	Totals	13300	27000	27000	500	206	277840	983	32	3000	33	33	165	9300	6700	950	155,975 50	

RETURN showing the Number, Tonnage and Value of Vessel and Boats, Nets, &c.—Province of Quebec—Continued.
County of Saguenay.

GODBOUT SUBDIVISION (Tadoussac to Jambouss).

DISTRICTS.	FISHING VESSELS AND BOATS				FISHING GEAR OR MATERIALS.													
	Vessels.				Boats.		Gill Nets.		Seines.		Trawls.		Weirs.					
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Value.			
<i>Saguenay Co.</i>																		
1 Tadoussac to Jambouss.....	4	57	500	15	187	37 40	170	200	7000	5000	6	240	250	4	100	25	900	1

MOISIE SUBDIVISION (Jambouss to Pignon).

1 Ste. Marguerite.					4	325	8	6	850	800	1	30	50					1
2 Seven Islands					28	2420	63	23	2309	2000	4	100	175					2
2 Moisie and Pignon	1	50	500	5	26	2150	52	44	5825	5330	4	100	220					3
Totals	1	50	500	5	58	4835	123	73	8984	8130	9	230	445					

MINGAN SUBDIVISION (Pignon to Wausheeshoo).

1 River aux Grains to Thunder river.					112	7370	206	10	1000	500	12	410	1100					1
2 Duck to Jupitagan.					16	960	28	5	150	100	2	75	150					2
3 Mingan					26	2080	60	10	1000	500	3	105	225					3
4 St. Johns River.					40	3600	80	4	600	500	2	98	150					4
5 Long Point, Mingan and Roname					24	1320	53	8	1200	750	3	105	225					5
6 Esquimaux Point	3	106	3000	29	61	4900	166	4	400	300	5	200	375					6
7 La Cornelle.					3	150	3	3	350	250								7
Totals	3	106	3000	29	282	25089	611	44	4700	2900	27	993	2295					

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NATASHQUAN SUBDIVISION (Watsheeshoo to English Point).

1 Watsheeshoo to Aqwanus.....	28	2340	59	10	1000	750	5	165	385	1
2 Ile à Michon and Pashasheeshoo.....	10	600	24	2	300	150	2	74	160	.....	2
3 Natashquan Harbour and river.....	44	4400	106	20	4000	2750	9	315	675	.....	3
Totals.....	82	7340	189	32	5300	3650	16	554	1230	.....

ROMAINE SUBDIVISION (English Point to Etanamin).

1 Kegashka.....	1	10	250	4	14	800	13	17	750	300	3	120	135	.....	1
2 Watsheeshoo and Romaine.....	1	37	750	9	12	360	18	36	900	445	1	45	45	.....	2
3 Coacachoo.....	2	47	1000	13	16	550	26	13	395	200	1	40	30	.....	3
Totals.....					42	1710	57	66	2045	945	5	205	210	.....

ST. AUGUSTIN SUBDIVISION (Etanamin to Chicatica).

1 St. Mary's island	4	120	5	6	750	400	1	40	40	.....	1	200	.....	1
2 Harrington	60	1800	100	20	2000	1000	6	180	200	.....	8	2400	.....	2
3 Little Meecatina and Whale Head	50	1000	68	20	2300	1000	8	320	500	.....	2	2400	.....	3
4 Mutton bay	70	1500	90	25	1500	750	6	240	400	.....	6	2400	.....	4
5 Meecatina to Kekapol	50	1000	75	30	3000	1200	8	320	500	.....	10	4000	.....	5
6 St. Augustin	30	600	40	30	3000	1200	4	160	160	.....	2	600	.....	6
7 Sandy island to Chicatica	24	480	30	15	1500	800	3	120	120	.....	3	1200	.....	7
Totals	288	6500	408	146	14050	6350	36	1380	1920	.....	38	13200	.....

BONNE ESPERANCE SUBDIVISION (Chicatica to Blancs Sablons).

1 Nabitippi to Burnt island.....	2	74	1800	10	38	1575	55	16	1000	1030	4	265	475	7	3150	1
2 Bonne Esperance.....	2	184	4500	20	62	3100	95	22	2000	1850	4	375	875	16	5000	2
3 Pidgeon Island to Salmon bay.....	1	40	700	16	74	3650	116	42	1630	1330	12	1945	3060	26	12400	3
4 Little Fishery to Belles Amour.....	.....	.....	.....	46	2350	94	20	1300	1300	8	570	775	14	5550	4	
5 Beadore bay to Blancs Sablons.....	.....	.....	.....	116	4950	218	141	3650	5450	12	1025	3000	43	18000	5	
Totals.....	5	298	7000	46	336	16625	578	241	8980	10960	40	4180	8185	106	45000	

THE ISLAND OF ANTICOSTI.

1 The Island of Anticosti.....	70	1600	70	50	2000	1000	4	200	400	3	1500	1
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RETURN showing the Kinds and Quantities of Fish and Fish Products, &c.—Province of Quebec—Continued.
County of Saguenay.

GODFROUT AND MOISIE SUBDIVISIONS (Tadoussac to Pigeon).

Number.	KINDS OF FISH AND FISH PRODUCTS.													Total VALUE OF ALL FISH.	Number.		
	Lobster.	DISTRICTS.															
		Chameries.	Salmon, fresh, lb.	Herring, salted, brls.	Lobster, preserved in cans, lb.	Cod, dried, cwt.	Cod, tongues and sonds, brls.	Hallbut, lb.	Trout, lb.	Shad, brls.	Clams, brls.	Fish oil, galls.	Fish as bait, brls.			Seal skins, No.	
Number.	Value.	%	1	400	130000	750	3000	2750	20	25000	.....	8500	.....	900	470	49,570 00	1
<i>Saguenay Co.</i>																	
1	Tadoussac to Jambons.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1	Ste. Marguerite.....	.....	8340	.....	.....	125	.....	.....	800	400	.....	10	125	20	15	2,476 75	1
2	Seven Islands.....	.....	12046	147	.....	400	10	1800	.....	.....	.....	65	475	100	61	6,049 45	2
3	Moisie and Pigeon.....	.....	122800	.....	.....	498	6	2500	500	.....	.....	59	4914	100	79	43,119 95	3
Totals.....			213186	147	.....	1083	16	5100	900	.....	134	5514	220	155	.....	51,646 15	.....

MINGAN SUBDIVISION (Pigeon to Watsheehoo).

1	River aux Grains to Thunder river.....	6	1450	1800	23	.....	1770	.....	1950	500	.....	42	1233	200	50	9,573 90	1
2	Duck to Jupitagan.....	.....	.....	.....	.....	.....	2433	.....	.....	500	.....	12	517	250	15	11,505 35	2
3	Magpie.....	.....	.....	30750	.....	.....	1389	.....	750	.....	.....	15	1011	150	10	12,086 30	3
4	St. Johns River.....	.....	.....	3430	.....	.....	1278	.....	1000	.....	.....	18	950	130	25	7,584 25	4
5	Long Point, Mingan and Roumaine.....	.....	.....	21000	.....	.....	370	.....	500	.....	.....	15	277	100	28	6,303 10	5
6	Esquimaux Point.....	.....	.....	.....	89	9600	2826	.....	1500	750	.....	20	5893	400	128	19,672 90	6
7	La Cornuelle.....	2000	980	1500	75	25	848 75	7
Totals.....	6	1450	61000	112	10580	10046	4650	5500	112	9956	1230	1411	68,654 55

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NATASHQUAN SUBDIVISION (Watsheeshoo to English Point).

1 Watsheeshoo to Agwaus	3	700	23200	2448	789	750	340	50	68	9,139 50	1
2 Ile à Melton and Pashasheshoo			22175	30	.....	336	.....	1000	.....	318	30	6	1,659 00	2
3 Natashquan Harbour and River .....			.....	.....	.....	5372	.....	.....	.....	4820	3000	45	34,846 25	3
Totals	3	700	45375	30	2448	6497	.....	1750	.....	5472	3080	119	45,645 65	

ROMAINE SUBDIVISION (English Point to Etanamin).

1 Kegashka	1	100	2800	76	1058	135	.....	600	800	310	75	70	2,247 00	1
2 Watsheeshoo and Romaine	1	100	4000	229	960	65	.....	.....	1300	430	50	110	2,794 00	2
3 Coacochoo	2	400	1000	927	18180	270	.....	.....	1200	470	100	90	10,730 00	3
Totals	4	600	7800	1223	20497	470	.....	600	3300	1210	225	270	15,771 00	

ST. AUGUSTIN SUBDIVISION (Etanamin to Chicatica).

1 St. Mary's islands	1	100	.....	30	.....	200	.....	.....	.....	320	1000	75	3,039 75	1
2 Harrington	3	500	10	130	.....	2500	.....	.....	.....	2800	750	100	13,775 00	2
3 Little Meecatina and Whale Head			10	10	2400	2000	.....	.....	.....	2750	1000	250	13,132 50	3
4 Mutton bay			10	80	.....	1850	.....	.....	.....	2100	1000	200	11,215 00	4
5 Meecatina to Kikapoo			25	40	.....	2000	.....	.....	.....	2250	750	230	11,642 50	5
6 St. Augustin			50	.....	3000	4000	.....	.....	.....	4750	500	870	17,012 50	6
7 Sandy island to Chicatica			21	.....	1000	1000	.....	.....	.....	1200	250	100	5,675 00	7
Totals	4	600	146	260	2400	13150	.....	4000	.....	15670	5250	1825	78,392 25	

BONNE ESPERANCE SUBDIVISION (Chicatica to Blancs Sablons).

1 Nabitipito Burnt island			10	40	.....	1250	.....	2000	.....	1000	450	60	7,205 00	1
2 Bonne Esperance			40	450	.....	4000	.....	.....	.....	2500	2000	.....	24,375 00	2
3 Pigeon island to Salmon bay			40	150	.....	3700	.....	2600	.....	2000	2000	.....	21,785 00	3
4 Little Fishery to Belles Amours			8	185	.....	3400	.....	.....	.....	1850	1800	40	19,557 50	4
5 Bradore bay to Blancs Sablons			8	380	.....	10700	.....	1000	.....	9000	7000	465	63,921 25	5
Totals			106	1205	.....	23050	.....	6200	.....	16350	13250	595	136,843 75	

THE ISLAND OF ANTICOSTI.

1 The Island of Anticosti	2	2000	30	200	88080	850	4000	3000	20	500	3500	55,515 00	1
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RECAPITULATION

Showing the Number, Tonnage and Value of Vessels and Boats and the Quantity and Value of all Fishing Materials in Gulf Division, Province of Quebec, for the year 1904.

COUNTY OF BONAVENTURE.

Districts.	Fishing Vessels and Boats.				Fishing Gear or Materials.									
	Vessels.		Boats.		Gill Nets.		Seines.		Trap Nets.		Trawls.		Wiers.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Number.	Fathoms.	Number.	Value.	Number.	Value.	Number.	Value.
			%			%				%		%		%
1 Restigouche subdivision	5	290	5000	30	1321	21350	375	20	4000	3500	20	4000	3500	20
2 Bonaventure " "					598	19990	422	1057	21350	16210	77	2340	3637	115
3 Port Daniel " "					1939	41715	3424	4352	86550	56310	218	6638	7202	480
Totals	5	290	5000	30	1939	41715	3424	4352	86550	56310	218	6638	7202	480

COUNTY OF GASPE.

Districts.	Fishing Vessels and Boats.				Fishing Gear or Materials.									
	Vessels.		Boats.		Gill Nets.		Seines.		Trap Nets.		Trawls.		Wiers.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Number.	Fathoms.	Number.	Value.	Number.	Value.	Number.	Value.
			%			%				%		%		%
1 Grand River subdivision	544	27605	1500	1303	31840	13210	33	1235	1075	337	5210	115	1350	115
2 Gaspé Bay " "	1385	38800	1435	1345	27100	17700	88	2940	2940	365	6830	365	6830	365
3 Mont Louis " "	353	9600	540	882	26015	17000	6	200	155	37	640	37	640	37
4 Ste. Anne des Monts subd.	215	2610	320	290	5800	3450	14	2060	4940	32	20900	32	20900	32
5 Magdalen Islands subdivision	9	162	4200	43	565	26480	1516	2749	74550	14564	141	6435	9110	374
Totals	9	162	4200	43	3972	106695	5371	6560	165305	65924	141	6435	9110	374

	4	57	500	15	187	3740	170	200	7000	5000	6	240	250	4	100	25	1
1 Godbont subdivision..	4	57	500	15	187	3740	170	200	7000	5000	6	240	250				1
2 Moisie "	1	50	500	5	58	4895	123	73	8984	8190	9	220	445				2
3 Mingun "	3	106	3000	20	282	25080	611	44	4700	2900	27	993	2205	4	1400		3
4 Natashquan "					82	7340	189	32	5300	3650	16	354	1230				4
5 Romaine "					42	42170	57	66	2045	945	5	265	210				5
6 St. Augustin "	2	47	1000	13	288	6500 ¹	408	146	14050	6350	36	1380	1920		38	13200	6
7 Bonne Esperance subdivis n.	5	298	7000	46	336	15625	578	241	8980	10960	40	4180	8185	196	45000		7
8 Anticosti "					70	1000	70	50	2900	1000	4	200	400	3	1500		8
Totals.....	15	558	12000	108	1345	67590	2206	852	53059	88995	143	7982	14845	151	61100	93	1900

GRAND TOTAL OF GULF DIVISION.

[illegible]

RECAPITULATION

Showing the Number, Tonnage and Value of Vessels and Boats and the Quantity and Value of all Fishing Materials in Gulf Division Province of Quebec, for the year 1904.—*Continued.*

COUNTY OF SAGUENAY.

DISTRICTS.	FISHING GEAR.			LOBSTER PLANT.			OTHER FIXTURES USED IN FISHERIES.						SALMON.		HERRING.	
	Number.	Value.	%	Hand Lines.	Canneries.		Traps.	Persons employed in canneries.	Freezers and ice houses.		Smoke and fish houses.	Piers and Wharfs.		Tugs, Steamers and smacks.	Fresh, lb.	Salted, brls.
					Number.	Value.			Number.	Value.		Number.	Value.			
1 Restigouche subdivision.	483750	1275	2	700	550	15	41	4575	338	93865	2	40000	.....	.....	50	8000
2 Bonaventure "	2550	1198	9	2850	10800	5800	223	11	7000	297	7975	.....	.....	.....	2825	45500
3 Port Daniel	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1800	18000
Totals	483750	2473	11	3550	11600	6350	248	52	11575	605	101840	2	40000	.....	4675	53500
															.....	47500

COUNTY OF GASPE.

DISTRICTS.	FISHING GEAR.			LOBSTER PLANT.			OTHER FIXTURES USED IN FISHERIES.						SALMON.		HERRING.	
	Number.	Value.	%	Hand Lines.	Canneries.		Traps.	Persons employed in canneries.	Freezers and ice houses.		Smoke and fish houses.	Piers and Wharfs.		Tugs, Steamers and smacks.	Fresh, lb.	Salted, brls.
					Number.	Value.			Number.	Value.		Number.	Value.			
1 Grand River subdivision.	3347	1673	9	3200	11750	5875	189	15	1800	138	57350	7	3300	.....	889	.....
2 Gaspé bay	4870	2970	5	1400	3350	1775	85	14	1200	85	59250	20	17700	.....	555	.....
3 Mont Louis	388	2010	1	400	200	100	10	10	2600	.....	.....	5	3600	.....	2420	.....
4 Ste. Anne des Monts subd.	800	860	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1900	.....
5 Magdalen islands subd.	2915	700	45	25175	58200	39748	1002	18	2640	50	54100	11	4500	.....	18090	30700
Totals	12970	8273	66	30175	73700	47498	1276	57	8240	273	170880	43	29100	23804	30700

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COUNTY OF SAGUENAY.

	1	2	3	4	5	6	7	8
1 Godbout subdivision	2750	20	25000	8500	134	5275
2 Moisie "	1683	16	5100	900	.....	122	.....	5514
3 Mingan "	10046	.....	4650	5500	.....	.....	.....	220
4 Natashquan "	6497	.....	.....	1750	.....	.....	.....	9956
5 Romaine "	470	.....	600	3300	.....	10	.....	3080
6 St. Augustin "	13150	.....	.....	4000	.....	.....	.....	1210
7 Bonite Esperance subdivis'n.	23050	.....	4000	6200	.....	.....	.....	225
8 Anticosti "	850	.....	.....	3000	.....	20	.....	13670
Total	57896	36	83350	33150	.....	20	266	16350
								500
								3500
								4815
								480,018 35

TOTAL FOR THE GULF DIVISION.

	1	2	3
1 Bonaventure county	46770	120	19125
2 Gaspé "	2675	2334	674858
3 Saguenay "	127006	36	57896
Grand totals	2675	2334	848634
			120
			169984
			228
			47000
			2034
			163
			134400
			88650
			273100
			197
			791
			43200
			430
			11375
			68420
			26364
			5525
			102500
			4815
			3125
			3000
			842,554 25
			225,386 50
			480,018 35
			1,557,459 10

RECAPITULATION.

STATEMENT showing Yield and Value of Fisheries in the Gulf Division, Province of Quebec, for the Season 1904.

Description.	Quantity.	Price.		Value.	
		\$	cts.	\$	cts.
Salmon, fresh in ice.	Lb. 721,011	0	20	144,202	20
" salted.	Brls. 282	15	00	4,230	00
Herring "	" 32,406	4	50	145,827	00
" fresh.	Lb. 84,200	0	01	842	00
" smoked.	" 74,500	0	02	1,490	00
Mackerel, fresh.	" 2,675	0	12	321	00
" salted.	Brls. 2,334	15	00	35,010	00
Lobsters, canned.	Lb. 848,634	0	25	212,158	50
" alive or fresh.	Cwt. 120	5	00	600	00
Cod, salted.	Cwt. 169,984	4	50	764,928	00
" tongues and sounds.	Brls. 228	10	00	2,280	00
Haddock, fresh.	Lb. 47,000	0	03	1,410	00
" salted.	Cwt. 2,054	3	00	6,162	00
Hake, salted.	Cwt. 163	2	25	366	75
Halibut, fresh.	Lb. 134,400	0	10	13,440	00
Trout, fresh.	" 88,650	0	10	8,865	00
Smelt "	" 273,100	0	05	13,665	00
Eels, salted.	Brls. 197	10	00	1,970	00
Clams "	" 791	4	00	3,164	00
Tom-cod.	Lb. 43,200	0	03	1,296	00
Squid.	Brls. 430	4	00	1,720	00
Fish oil.	Galls. 139,748	0	30	41,924	40
Fish as bait.	Brls. 59,544	1	50	89,316	00
Fish as manure.	Brls. 106,025	0	50	53,012	50
Seal skins number.	7,815	1	25	9,768	75
Total for 1904.				1,557,959	10
" 1903.				1,994,801	90
Decrease.				436,842	80

SESSIONAL PAPER No. 22

RECAPITULATION

SHOWING Number of Men, Vessels and Boats, and Value of Material in Gulf Division Fisheries, for the Season 1904.

Description.	Value.
	s cts.
29 vessels of 910 tons (manned by 181 men).....	21,200 00
6,356 boats (fished by 11,001 men)	215,200 00
304,914 fathoms (gill-net).....	155,229 00
502 seines (21,045 fathoms).....	31,157 00
183 trap-nets	82,000 00
947 trawls.....	14,490 00
25 weirs.....	900 00
48 smelt-nets.....	3,750 00
5,025 hand lines.....	13,672 00
91 canneries (employing 1,681 hands).....	39,475 00
92,920 lobster traps.....	58,283 00
164 freezers and ice houses.....	22,715 00
1,308 smoke and fish houses.....	341,540 00
310 private piers and wharfs.....	106,240 00
1 steam tug.....	7,500 00
Total value.....	1,113,351 00

RETURN of the Number of Fishermen, Value of Boats, Nets, &c., and the Kinds of Province of Quebec,

Number.	DISTRICTS.	FISHING MATERIALS.								KINDS			
		Boats.			Gill Nets.			Brush or Eel Weirs.		Salmon, lb.	Shad, lb.	Herring, salted, brls.	Herring, fresh, lb.
		Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Value.				
			\$				\$		\$				
1	Capucins.....	20	240	23	12	280	140						22500
2	Petits et Grands Méchins.....	38	800	40	40	900	450			3040			66900
3	Grosses Roches.....	22	210	28	29	700	350						118800
4	Ste. Félicité.....	30	330	32	37	900	450						112800
5	Matane.....	20	245	24	22	530	265	7	340	3400			33600
6	Rivière Blanche.....	18	280	18	21	440	220	1	30				28400
7	Sandy bay.....	48	500	50	66	1320	660					100	1000
8	Métis.....	7	50	8	1	25	12	6	200	2200			9500
9	Ste. Flavie and Ste. Luce.....	13	70	15	25	880	440	7	350	300		25	25000
10	Rimouski.....	30	500	35	7	60	30	12	420	2600		40	5800
11	Islet à Canuel.....	8	220	12	90	440	270	5	980	6200		28	27000
12	Bic et Rivière Hâtée.....	6	60	14	4	250	125	10	1100	2000		50	140000
13	St. Fabien and St. Simon.....	3	15	5				5	100				500
14	Trois Pistoles.....	3	12	3				3	280	200	400		9000
15	Ile Verte.....	36	300	52				30	1800	2800	14800	182	30000
16	Cacouna.....	8	70	8				8	400	3600	2000	100	27000
17	Riv. du Loup and N.D. du Portage..	4	40	9				9	400	9800	9100		56000
18	St. André.....	4	10	4				4	800				2300
19	Kamouraska.....	3	10	3				3	1500	270	1800	10	500
20	St. Denis.....	7	50	7				7	450	80			500
21	Rivière Ouelle.....	10	70	14				14	550	360	150	8	32400
22	Ste. Anne Lapocatière.....	10	40	10				10	350				
23	St. Roch.....	4	10	6				6	100				
24	St. Jean Port Joli.....	13	65	19				19	240				
25	L'Islet.....	5	30	5				5	350				
26	Cap St. Ignace.....	10	50	10	2	60	30	10	900				
27	Crane, Goose and other isles.....	5	40	5				5	220				
28	Montmagny.....	10	50	12	3	70	35	11	330				
29	Berthier.....	30	120	30	10	300	150	30	500				
30	St. Valier.....	5	50	6				1	2500	150	5400		
31	St. Michel.....	8	50	8				8	3200	60	4600		
32	Beaumont.....	9	60	9				9	3850	80	8900		
33	St. Joseph de Lévis.....	9	55	9				9	3650	170	3200		
34	St. Nicholas.....	1	10	2				1	400		1800		
	Totals.....	457	4712	535	369	7155	3627	255	26290	37310	52150	543	749500
	Values.....									7462	5215	2443	7495

SESSIONAL PAPER No. 22

Fish caught in the South Shore District extending from **Cape Chatte** to **Lévis**,
for the Year 1904.

OF FISH AND FISH PRODUCTS.

Whitefish, lb.	Trout, lb.	Bass, lb.	Pickered, lb.	Cod, gree, lb.	Halibut, lb.	Sturgeon, lb.	Eels, lb.	Herring, smoked, lb.	Sardine, bds.	Mixed and coarse fish, lb.	Fish oil, galls.	Fish as bait, bds.	Fish as manure, bds.	Seals, No.	Belugas, No.	TOTAL VALUE OF ALL FISH.	Number.
																\$	cts.
	1000			12000	2000						100	13				754	50 1
				32700	1480						140	27				2,967	50 2
				51285	1200						100	50				3,492	40 3
	250			19000	3000		200		85		50	10				2,038	00 4
				6000							10	5				1,858	50 5
				700												635	00 6
				300	200					3500						527	00 7
					1500											685	00 8
					800	50			10	10000						635	50 9
	9000					3600	4000	1100		7200		150				2,067	00 10
								4000				200				2,032	00 11
							5800				10					2,028	00 12
																353	00 13
					250				10							223	75 14
					6900			6200	150	8100	15	200	3			336	25 15
					1700				50	10200	25	75	20			2,064	00 16
					500					3800	20		15			3,522	75 17
					480	1100	200		10	500	5		5			164	55 18
					520	200								10		339	70 19
					100	3200			10	1200						261	00 20
					90	3100			12	1800	1600				28	1,284	40 21
	5400				300	1200				2200						652	00 22
						2400				1500						159	00 23
	3200					6500				1450						724	50 24
						2500				1100						161	00 25
					6800	1500				2400				8		532	00 26
	3500					4500				550						625	50 27
					6500	2000				3000						540	00 28
					14200	8400				7900						1,435	00 29
1400		950			7400	10300				4700						1,866	50 30
2000	1100	800			1300	61000				1700						4,577	00 31
1400	900	550			2100	45700				1550						4,047	00 32
2600	1050	800			1100	96800				1950						6,652	50 33
500	150	750			100					1850						307	00 34
7900	18850	6700	3850	121985	10180	53990	260400	11500	337	78150	2075	105	625	68	28		
790	1885	670	193	4879	1018	3240	15624	230	1011	781	623	157	313	85	112	54,225	80

SESSIONAL PAPER No. 22

all kinds of Fish caught in the Inland District from Quebec to Pontiac in the for the Year 1904.

KINDS OF FISH.													VALUE.	Number.
Shad, lb.	Whitefish, lb.	Trout, lb.	Bass, lb.	Pickarel, lb.	Pike, lb.	Maskinonge, lb.	Sturgeon, lb.	Eels, lb.	Perch, lb.	Bullheads, lb.	Cattfish, lb.	Mixed and Coarse Fish, lb.	\$ cts.	
...	15000	65300	18000	29300	87600	4800	39100	10200	10200	8500	9000	180000	25,383 00	1
...	...	2000	4500	7500	6200	1550	3100	11200	11700	8600	4900	4000	3,965 00	2
2000	...	...	400	500	600	100	500	2000	1500	1000	1000	1000	575 00	3
5000	18000	2400	5500	4600	400	1500	6000	4000	3500	1500	13000	4,295 00	4	4
4000	400	3300	1200	2800	7000	500	1500	3200	6500	8000	600	13000	2,695 00	5
...	...	...	900	1600	4000	200	1200	13000	5000	5000	3000	2000	1,712 00	6
4100	2500	4000	1500	2000	6000	400	2000	4300	4000	4000	3200	12000	4,500 00	7
1500	1500	...	1800	5600	6000	950	5600	26300	5400	2500	3000	77000	5,314 00	8
500	...	...	1000	7000	12000	500	2000	21300	8500	6500	900	72300	5,101 00	9
2000	400	...	700	250	4000	200	1000	12000	4000	2000	1000	12000	1,825 00	10
...	...	...	5000	6000	38000	...	700	85000	54000	30000	...	189000	16,122 00	11
...	200	...	400	1000	3000	200	1000	2500	3000	1200	500	2500	815 00	12
...	900	...	200	800	1200	200	2000	3000	2000	1000	300	50000	1,729 00	13
1200	200	...	600	800	800	100	400	500	1000	400	200	25000	912 00	14
...	...	...	2400	1100	1400	400	3500	10000	11000	9000	3000	25900	2,878 00	15
...	...	...	1200	1100	1200	300	9000	55000	900	1200	1200	1000	4,321 00	16
...	...	...	36300	4100	...	...	...	44900	...	...	...	29000	6,660 00	17
...	6000	50300	6200	29000	1800	200	...	800	16300	...	...	31300	10,749 00	18
20300	27100	142900	48400	137350	189500	11000	74100	263300	193300	92400	33300	740000	.....	...
1218	2710	14290	4840	13735	9475	1100	4446	15798	9695	4620	999	14800	99,546 00	...

5-6 EDWARD VII., A. 1906

NORTH SHORE of the St. Lawrence from Quebec to the Saguenay including
Lake St. John district, 1904.

Fishing Materials and Kinds of Fish.	County of Quebec.	Montmor- ency, & Isle of Orleans.	Charlevoix & Isle aux Coudres.	Lake St. John & Tributaries.	Total Quantity.	Total Value.
						\$ cts.
Boats, No.	2	15	18	*17	52	600 00
Weirs, "		130	50		180	12,400 00
Gill-nets, fathoms	100	300	400	1,900	2,700	700 00
Seines, fathoms		60	70		130	60 00
Lines, No.	15	40	40	50	145	140 00
Total value,						13,900 00
<i>Kinds of Fish.</i>						
Salmon, Lb.		900	1,400	9,000	11,300	2,260 00
Herring fresh, "			4,200		4,200	42 00
Whitefish, "	1,800	500		16,000	18,300	1,830 00
Trout, "	7,200	1,300	13,600	18,000	40,100	4,010 00
Ouananiche, "				12,000	12,000	1,200 00
Pickarel, "	600	300		60,300	61,200	6,120 00
Pike, "				15,700	15,700	785 00
Eels, "	500	275,000	60,200		335,700	20,142 00
Perch, "	100	200		1,200	1,500	75 00
Coarse and mixed fish, "	1,900	27,000	159,000	72,300	260,200	2,602 00
Sardines, Brls.		75	125		200	600 00
Totals,	12,100	320,200	253,400	204,500	800,200	
Values,	1,014	17,395	7,259	13,998		39,666 00

* One fishing tug \$300.

SESSIONAL PAPER No. 22

RECAPITULATION

Showing the Yield and Value of the Fisheries of the Province of Quebec, (exclusive of the Gulf division), for the year 1904.

Kinds of Fish.	Quantity.	Price.		Value.	
		\$	cts.	\$	cts.
Cod (green).....	Lb.	121,985	0 04	4,879	40
Halibut.....	"	10,180	0 10	1,018	00
Salmon.....	"	48,610	0 20	9,722	00
Ouananiche.....	"	12,000	0 10	1,200	00
Trout.....	"	201,850	0 10	20,185	00
Whitefish.....	"	53,300	0 10	5,330	00
Herring, salted.....	Brls.	543	4 50	2,443	50
" fresh.....	Lb.	753,700	0 01	7,537	00
" smoked.....	"	11,500	0 02	230	00
Sardines.....	Brls.	537	3 00	1,611	00
Shad.....	Lb.	72,450	0 06	6,433	00
Eels.....	"	859,400	0 06	51,564	00
Maskinonge.....	"	11,000	0 10	1,100	00
Bass.....	"	55,100	0 10	5,510	00
Pickarel.....	"	202,600	.....	20,067	50
Pike.....	"	205,200	0 05	10,260	00
Perch.....	"	195,400	0 05	9,770	00
Sturgeon.....	"	128,090	0 06	7,685	40
Tom-cod.....	"	60,000	0 03	1,800	00
Bullheads, dressed.....	"	92,400	0 05	4,620	00
Catfish.....	"	33,300	0 03	999	00
Coarse fish.....	"	1,078,350	.....	18,183	50
Fish oil.....	Galls.	2,075	0 30	622	50
Fish as bait.....	Brls.	105	1 50	157	50
" as fertilizer.....	"	625	0 50	312	50
Hair seal skins.....	No.	68	1 25	85	00
Belugas (white whales).....	"	28	4 00	112	00
Total for 1904.....	.....	.....	.....	193,437	80
" 1903.....	.....	.....	.....	216,990	65
Decrease.....	.....	.....	.....	23,552	85

STATEMENT showing the Fishing Materials in the above districts (exclusive of the Gulf St. Lawrence), 1904.

Articles.	Value.	
	\$	cts.
1,313 Fishing boats (1,635 men).....	12,467	00
788 Gill-nets (15,465 fathoms).....	5,682	00
146 Seines (5,000 fathoms).....	3,005	00
435 Weirs (brush or wire).....	38,690	00
2 Special eel weirs.....	60,000	00
1,845 Hoop-nets (verveux).....	8,650	00
1,072 Fishing lines or night lines.....	1,210	00
Total.....	129,734	00

5-6 EDWARD VII., A. 1906

RECAPITULATION

Of the Yield and Value of the Fisheries of the whole Province of **Quebec** for the Year 1904.

Kinds of Fish.	Quantity.	Rate.	Value.	Total Value.
		8 cts.	8 cts.	8 cts.
Salmon, fresh... Lb.	769,621	0 20	153,924 20	
" salted... Brls.	282	15 00	4,230 00	
				158,154 20
Ouananiche... Lb.	12,000	0 10	1,200 00	
Trout... "	290,500	0 10	29,050 00	
Whitefish... "	53,300	0 10	5,330 00	
Smelts... "	273,100	0 05	13,655 00	
Cod, dried... Cwt.	169,984	4 50	764,928 00	
" fresh or green... Lb.	121,985	0 04	4,879 40	
" tongues and sounds... Brls.	228	10 00	2,280 00	
				772,087 40
Haddock, dried... Cwt.	2,054	3 00	6,162 00	
" fresh... Lbs.	47,000	0 03	1,410 00	
				7,572 00
Hake, dried... Cwt.	163	2 25	366 75	
Halibut... Lb.	144,580	0 10	14,458 00	
Tom-cod... "	103,200	0 03	3,096 00	
Herring (fresh)... "	837,900	0 01	8,379 00	
" (smoked)... "	86,000	0 02	1,720 00	
" (salted)... Brls.	32,949	4 50	148,270 50	
				158,369 50
Sardines... Brls.	537	3 00	1,611 00	
Shad... Lb.	72,450	0 06	6,433 00	
Mackerel, fresh... "	2,675	0 12	321 00	
" salted... Brls.	2,334	15 00	35,010 00	
				35,331 00
Bass... Lb.	55,100	0 10	5,510 00	
Pickarel... "	202,600		20,067 50	
Perch... "	195,400	0 05	9,770 00	
Pike... "	205,200	0 05	10,260 00	
Maskinongé... "	11,000	0 10	1,100 00	
Eels... "	859,400	0 06	51,564 00	
"... Brls.	197	10 00	1,970 00	
				53,534 00
Sturgeon... Lb.	128,090	0 06	7,685 40	
LOBSTERS, canned... "	848,634	0 25	212,158 50	
" fresh in shell... Cwt.	120	5 00	600 00	
				212,758 50
Squid... Brls.	430	4 00	1,720 00	
Clams... Brls.	791	4 00	3,164 00	
Bullheads, dressed... Lb.	92,400	0 05	4,620 00	
Catfish... "	33,000	0 03	999 00	
Coarse and mixed fish... "	1,078,350		18,183 50	
Fish Oil... Galls.	141,823	0 30	42,546 90	
Fish as bait... Brls.	59,649	1 50	89,473 50	
" as manure... "	106,650	0 50	53,325 00	
Seal skins... No.	7,883	1 25	9,853 75	
Belugas (White Whales)... "	28	4 00	112 00	
				1,751,396 90
Total for 1904... "				2,211,792 55
" 1903... "				
Decrease... "				460,395 65

SESSIONAL PAPER No. 22

RECAPITULATION

Of the Number of Fishing Crafts, Nets, &c., in the whole Province of Quebec,
for the year 1904.

Articles.	Value.	Total.
	\$	\$ cts.
29 Fishing vessels (910 tons).....	21,200	
7,669 " boats.....	227,667	248,867 00
320,379 fathoms of gill nets.....	160,911	
26,045 " seines.....	34,162	
460 weirs (brush or wire).....	39,550	
2 special eel weirs.....	60,000	
1,845 hoop-nets (verveux).....	8,680	
183 trap-nets.....	82,000	
48 smelt and seal-nets.....	3,750	
947 trawls.....	14,490	
6,097 hand lines and night lines.....	14,882	418,465 00
91 lobster canneries.....	39,475	
92,920 " traps.....	58,283	97,758 00
164 freezers and ice houses.....	22,715	
1,308 smoke and fish houses.....	341,540	
310 piers and wharfs.....	106,240	
1 smack and tug.....	7,500	477,995 00
Total ..		1,243,085 00

STATEMENT of Persons engaged in the Quebec Fisheries in 1904.

Number of men in fishing vessels.....	181
" " " boats.....	12,636
" persons " lobster canneries.....	1,681
Total.....	14,498

APPENDIX No. 7

ONTARIO.

GENERAL REMARKS—SEASON 1904

Notwithstanding that the fishing season was late in opening, being from two weeks to one month later than usual, owing to the long and extremely severe winter of 1903-4, it is gratifying to be able to report that the fishermen have had a very prosperous year, judging from the returns, which show that the catch was 2,815,765 pounds greater than in 1903, and from the prices paid, which for all kinds of fish have ruled high during the whole season.

The total quantity of fish taken was 24,009,970 pounds, the estimated value of which was \$1,793,229. The amounts of the different kinds taken were lake trout, 6,275,430; whitefish, 3,474,300; herring, 4,252,580; pickerel (dore), 2,632,540; pike (including blue pickerel), 1,775,700; coarse fish, 2,087,960; perch, 922,600; eels, 45,500; tullibee, 5,800; catfish, 520,150; sturgeon 485,200 pounds; and of caviare, 29,170.

Licenses to fish with 3,490,036 yards of gill-net, 514 pound-nets, 473 hoop or fyke-nets, 120 seines, 75 dip-nets, and three machines, besides several thousand hooks, have been issued.

The occupation has given employment to 3,125 men; and 128 tugs and 1,477 other crafts have been in use.

An estimated capital of \$931,097 is invested in the industry.

DOMESTIC LICENSES.

These licenses continue to be issued for some of the interior lakes, particularly in the eastern part of the province, the provincial department being of the opinion that where game fish do not abound, it will be advantageous to resident settlers to receive licenses at a nominal fee for small quantities of gill-net to take fish for their own consumption, but not for barter or sale.

HOOP NET LICENSES.

It has also been considered advisable to grant hoop-net licenses in certain lakes in which fishing has not heretofore been carried on, where it has been reported that the coarse fish were multiplying at the expense of the better classes. It is impossible to restore or increase the game fish unless the worthless kinds are first exterminated; and the hoop-net is the only implement of capture with which this can be done effectively without injury to the better classes. As an illustration of this, it may be mentioned that a fisherman caught and destroyed 2,700 bow-fins during the season in his hoop-nets. In some places where these nets have been fished for a number of years, it might be advisable to discontinue them for a period.

SPEARING LICENSES.

The privilege to spear coarse fish, carp, suckers and pike has been granted for a number of years to residents in the vicinity of Burlington bay, and every year some 100 huts in which the spearing is done may be seen upon the ice. The fee charged for a license to spear has been but \$1 sufficient only to pay for the expense of issuing and delivering the same.

SESSIONAL PAPER No. 22

STURGEON.

The gradual decline in the catch of sturgeon has been referred to in former reports, and a comparison of the catch this year with that of last year is a further indication that there is no abatement in this decline, for the increase shown in some places can be attributed to more extensive operations having been carried on and not to an increase in supply, and if the destruction continues without regard to age or spawning season for a few years longer, its complete annihilation must, of course, follow. So alarmed at the prospect have Americans become that they have already been attempting artificial propagation, and though it has been demonstrated that can be successfully done, yet the expense with which it is attended and the difficulty of obtaining the fish in proper condition would seem to indicate that its restoration can be accomplished more effectively by natural increase. Therefore, the resolution presented at the Detroit Conference that in its opinion the time had come when the taking of these fish in any manner for commercial purposes should be prohibited for a period of five years was unanimously adopted. A regulation was passed by the Dominion Government in 1903 that none should be taken during the month of May and June, and none under four feet in length, but this regulation will not be enforced until such time as the border states may pass similar legislation. This province has been asked to do something towards stocking depleted waters, but under existing conditions expenditure on this account would be practically wasted.

CARP.

The privilege of taking these fish has been granted wherever it appeared that this could be done without injury to the better species, and the subject whether the privilege might be further extended with profit to the fishermen and with advantage to the fisheries should receive every consideration. With so many finer varieties of fish to be had, it is not strange that the carp is regarded in Canada with disfavour as an edible fish; but in some localities it has already become an important fish of commerce, meeting the demand of the poorer classes. By making provision for retaining them during the summer months, when the catch exceeds the immediate demand, much higher prices may be obtained. During the fall, nine cents per pound was paid for carp in the wholesale markets of New York City and Chicago; and the carp weighs well. In portions of Lake Erie and Lake St. Clair it has become very abundant; and it is being taken almost everywhere in the open waters of Ontario in greater or lesser quantities, even as far north as the Manitoulin island. It is said that 200,000 pounds were recently shipped from New York to Germany, the country of its nativity, and where it is still highly esteemed.

REARING PONDS FOR BASS.

If it is considered of sufficient importance that the work of restoring and establishing bass fishing in the rivers and small lakes of the province, as well as in the larger bodies of water, should be proceeded with in a manner that will enable this to be accomplished more speedily, other means for obtaining stock may have to be adopted; the erection of ponds for breeding and rearing bass is a subject which may profitably receive consideration. There are many waters which it may be desirable to stock to which a few cans of fry or fingerlings could be sent, but under existing circumstances there is no certain means, except for a limited period, of obtaining these. Another advantage of rearing ponds is that the young fish may be kept until large enough to be liberated in their future home when they will be able to a greater extent to escape their natural enemies than they would be if deposited in the fry state. The cost of construction would be inconsiderable and should not be an obstacle in the way if on the whole it is thought the necessity for such ponds exists, and that it is advisable they should be erected. The parent fish as at present taken can only be secured for a short time; but it is believed that the period might be extended with the adoption of other though perhaps more expensive, means of capture, namely, by hook and line.

SESSIONAL PAPER No. 22

ARIO.

Nets, &c., also of Fish caught in the Province of Ontario, during the Year 1904.

KINDS OF FISH.													
Herring, fresh, lb.	Whitefish, lb.	Trout, lb.	Pickeral or dove, lb.	Pike, lb.	Sturgeon, lb.	Tullibee, lb.	Catfish, lb.	Mixed and coarse fish, lb.	Caviare, lb.	Sturgeon bladders, No.	Trout, salted, brls.	Whitefish, salted, brls.	Value.
													\$ cts.
165110	25620	125060	66900	41950	1050	125750	8000	2170	130				49,597 00
73070	1120	102170	33850										18,990 00
66730		24850	21900										10,034 00
9600	4300	6840	800										2,106 00
		26270	1200										2,675 00
900	100						500						115 00
3500	9000	2650					500						1,515 00
260	20	300	700				500						161 00
2200			1100				9200						540 00
750		3700	6400		2650								860 00
4800	9600						1000						1,470 00
326920	49760	291840	132850	41950	3700	125750	19200	2170	130				
32692	4976	29184	5314	3356	222	10060	576	1519	104				88,003 00
176800	274900	1058750	19250	300			2500				691	158	152,707 00
500	34800	88500	2000	300	500								12,607 00
	9700	66100									26		7,840 00
	1000	1500									325	50	4,000 00
	13300	102100	1500	300							150		13,202 00
	3000	7090											1,000 00
	21000	145900											16,750 00
	21190	17850	300	50	100						50		4,444 00
	6780	4200	650		150								1,175 00
	23000	6000	2000	300	500								3,152 00
											300		3,000 00
	27250	269550									751		57,190 00
177300	436520	1767450	25700	1250	1250		2500				2293	208	
8865	43652	176745	2570	50	100		75				22930	2080	257,067 00

SESSIONAL PAPER No. 22

Kinds and Quantities of Fish, &c., in the Province of Ontario--Continued.

KINDS OF FISH.													Value.	Number.
Herring, salted, brls.	Herring, fresh, lb.	Whitefish, lb.	Trout, lb.	Pickered or dore, lb.	Pike, lb.	Sturgeon, lb.	Perch, lb.	Catfish, lb.	Mixed and coarse fish, lb.	Cavaire, lb.	Sturgeon bladders, No.	Trout, salted, brls.	Whitefish, salted, brls.	
.....	.....	2580	1200	90	2100	50	.....	.....	.....	.....	.....	.....	5	525 1
.....	.....	5000	4000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	900 2
.....	.....	2350	4100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	645 3
.....	.....	52510	61600	24600	1200	5150	.....	.....	2500	.....	.....	.....	.....	14,406 4
.....	.....	5600	60300	40000	.....	1500	.....	.....	.....	100	20	.....	.....	10,980 5
.....	.....	3600	4200	29650	8050	7250	.....	300	400	40	.....	.....	.....	4,711 6
.....	.....	27450	13400	17600	2500	1400	.....	.....	.....	50	.....	.....	.....	6,092 7
.....	.....	27450	13400	17600	2500	1400	.....	.....	.....	50	.....	.....	.....	6,092 8
.....	.....	27450	79400	17600	2500	1400	.....	.....	.....	50	.....	66	.....	13,352 9
.....	.....	13290	73350	900	.....	.....	.....	.....	.....	.....	.....	.....	.....	8,754 10
.....	.....	13990	86350	48400	650	2800	.....	.....	800	60	.....	.....	3	15,220 11
10	.....	5400	6850	38750	1050	1900	.....	.....	.....	.....	.....	.....	.....	5,394 12
.....	.....	9000	188000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	19,700 13
.....	14000	10000	.....	12060	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,900 14
.....	.....	12150	168000	1000	.....	500	.....	.....	.....	.....	.....	22	.....	18,375 15
600	13000	10000	120000	40000	.....	1500	.....	.....	.....	100	.....	20	.....	24,040 16
75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	750 17
300	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,000 18
800	.....	39900	196200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	31,610 19
.....	.....	89280	198300	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	28,758 20
.....	.....	735000	120000	.....	.....	.....	.....	.....	.....	.....	.....	12	.....	85,620 21
.....	.....	30000	196000	.....	.....	.....	.....	.....	.....	.....	.....	66	.....	23,260 22
.....	.....	232800	415400	600	200	.....	.....	.....	.....	.....	.....	22	.....	65,108 23
1000	8000	177400	91000	166600	88700	14600	.....	6900	57000	1950	780	.....	20	63,067 24
2785	35000	1532200	2101050	455390	109450	39450	.....	7200	60700	2400	780	228	28	.....
27850	1750	153220	210105	45539	4378	3156	.....	576	1821	1680	624	2280	280	453,259
.....	.....	219580	245530	7100	4200	.....	.....	1600	.....	.....	.....	.....	.....	47,547 1
.....	.....	6500	3000	5770	18950	300	.....	1100	13500	.....	.....	.....	.....	2,802 2
163	300	13540	3900	47200	4800	450	.....	100	3000	50	.....	1	.....	6,920 3
10	5000	20500	41000	4000	6000	.....	.....	1000	6000	.....	.....	410	90	13,930 4
61	200	4950	15900	2500	7800	.....	.....	.....	1300	.....	.....	20	20	3,196 5
7 1/2	43100	53100	222960	.....	.....	15750	9400	.....	11600	3280	345	101	.....	35,843 6
10	16380	145550	621950	.....	.....	.....	.....	.....	.....	.....	.....	88	.....	78,524 7
10	5300	6950	243100	.....	.....	.....	.....	.....	.....	.....	.....	18	.....	25,550 8
258 1/2	70280	470670	1397340	66870	41750	16500	9400	3800	35400	3330	345	638	110	.....
2585	3514	47067	139734	6687	1670	1320	282	304	1062	2331	276	6380	1100	214,312
308	75900	6000	612400	100	.....	500	.....	.....	5000	200	.....	239	.....	71,445 1
144	300	500	103600	.....	.....	.....	.....	.....	.....	.....	.....	220	.....	14,065 2
5	156600	34050	141980	108650	.....	5750	3600	.....	18100	.....	.....	.....	.....	37,459 3
.....	7700	3700	13600	65300	.....	2450	3300	450	6300	.....	.....	.....	.....	9,165 4
.....	16800	.....	100	73250	.....	3300	1900	.....	10500	.....	.....	.....	.....	8,811 5
.....	124700	2250	3550	137500	.....	26100	1200	200	36200	.....	.....	.....	.....	23,791 9
457	382000	46500	875230	384800	38100	10000	650	76100	200	459
4570	19100	4650	87523	38480	3048	300	52	2283	140	4590	164,736

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and the Quantities of Fish caught in the Province of **Ontario** for the Year 1904.

KINDS OF FISH.														
Herring, salted, brls.	Herring, fresh, lb.	Whitefish, lb.	Trout, lb.	Pickerel or dore, lb.	Pike, lb.	Surgeon, lb.	Perch, lb.	Tullibee, lb.	Catfish, lb.	Mixed and coarse fish, lb.	Caviare, lb.	Sturgeon bladders, No.	Whitefish, salted, brls.	VALUE.
	6700	.....	100	117290	1350	6250	3400	.....	200	80900	.....	.....	.....	15,173
	.....	.....	.....	26100	1750	.....	100	.....	3600	98300	.....	.....	.....	5,920
	1100	34950	...	85500	26650	32875	54800	.....	32625	410600	1040	...	...	33,096
	7800	34950	100	228890	29750	39125	58300	...	36425	589800	1040	.....	.....	.....
	390	3495	10	22889	1190	3130	1749	.....	2914	17694	728	.....	.....	54,189
	234000	22150	...	20000	40050	6500	33200	.....	18450	37300	580	.....	.....	22,034
	98200	69000	.....	76900	145900	11800	138100	.....	7100	214900	930	10	.....	38,097
	422900	49700	.....	85400	720850	12900	206000	.....	1250	110000	370	.....	.....	74,360
	891000	52200	.....	286000	128450	11350	59200	.....	2950	34100	890	.....	.....	88,974
	93900	5900	.....	450	30100	700	9600	.....	200	1600	160	.....	.....	7,054
	122400	.....	.....	12100	11100	.....	62600	2100	2600	109400	.....	.....	.....	13,268
	226500	12850	200	164100	2000	.....	8600	.....	1800	5600	.....	.....	.....	29,690
20	105800	11000	.....	88200	100	7850	1000	.....	.....	5800	90	150	.....	16,429
	6300	.....	.....	19450	5000	.....	22800	.....	2950	139600	.....	.....	.....	7,568
	7800	26700	.....	22100	.....	12050	5300	.....	50	5700	430	30	.....	6,893
	.....	.....	.....	.....	.....	.....	.....	.....	9100	.....	.....	.....	.....	728
	272400	76550	.....	163300	1300	6950	23400	.....	50	49500	270	25	.....	40,613
	152600	34750	...	87750	68100	25275	18700	.....	225	57600	960	...	8	27,685
	10500	.....	...	38000	6000	16700	9300	.....	150	14700	1500	1130	.....	8,587
20	2614300	360800	200	1063750	1158950	112075	597800	2100	46875	785800	6180	1345	8	.....
200	132215	36080	20	106375	46358	8966	17934	126	3750	23574	4326	1076	80	381,080

SESSIONAL PAPER No. 22

and the Quantities of Fish caught in the Province of Ontario for the year 1904.

KINDS OF FISH.											VALUE.	Number.	
Herring salted, bbls.	Herring fresh, lb.	Whitefish, lb.	Trout, lb.	Pickarel or dorr, lb.	Pike, lb.	Sturgeon, lb.	Eels, lb.	Perch, lb.	Catfish, lb.	Mixed and coarse fish, lb.			Caviar, lb.
												\$	
	450700	4650	11050	54150	2000	3400		33200	2350	5700		31,227	1
	178500	21500	8600	200				4000	50	4500		12,214	2
	101000		4000							20000		6,050	3
	10000	3000	3500		250		350	400	250	300		1,222	4
	41100	6800	2500	200	50	300		200	100	3200		3,141	5
	16100	1650	90		50			100				984	6
	31200	2300	12450	150	31800			17800	7250	118800		9,000	7
					250			3600	28200	14200		2,800	8
	37600	31600	34060	100	10200	350	300	31000	15150	46900		12,459	9
	9000	70000		10000	130000		30000	50000	40000	90000		22,850	10
					28300		8850	42400	47900	19800		7,361	11
	11400	49150	7650	4350	5700			10300	50	50500		8,751	12
				500	13700		6000	20100	64000	49500		8,166	13
	886600	190650	83900	69650	222300	4050	45500	213100	205300	423400			
	44330	19065	8390	6965	8892	324	2730	6393	16424	12702		126,225	
9	14400	140	400	50	32100			3400	31950	14800		5,255	1
	1000				8700			25000	47500	5300		5,113	2
					4000	10000	3500	5200	14200	56900		4,079	3
		300			700	3900		200	500	400		314	4
	33900	74650		40000	24700	189200				17600	13850	39,597	5
9	49200	75090	400	45650	79400	192700		34000	94150	95000	13850		
90	2465	7509	40	4565	3176	15416		1020	7532	2850	9695	54,358	

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ONTARIO

RECAPITULATION of the Number of Fishermen, Tonnage and Value

Number.	DISTRICTS.	Tugs or Vessels.			Boats.			Gill Nets.		
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Yards.
				£			£			£
1	Lake of the Woods and Rainy River district.....	4	100	8000	12	38	6725	80	54035	7225
2	Lake Superior.....	18	183	36600	104	79	7250	111	466500	26900
3	Lake Huron (North channel).....	26	511	79500	156	111	14735	210	862000	55680
4	Georgian bay.....	22	543	60100	118	137	9130	296	883300	63665
5	Lake Huron (proper).....	13	253	32800	67	109	7675	184	395300	32741
6	Lake and River St. Clair and Thames river.....	5	13	2150	9	139	6286	303		
7	Lake Erie.....	30	717	82412	181	329	30567	467	376430	34592
8	Lake Ontario.....	2	51	3800	9	283	19037	411	443025	21776
9	Frontenac county.....					123	1622	207	5711	591
10	Leeds and Lanark.....					41	355	64	210	53
11	Prescott, Russell and Carleton counties.....	1	3	450	2	36	600	36	1000	100
12	Renfrew county.....					30	165	31	1125	165
13	Nipissing district.....	6	15	7700	14	22	1600	23	1400	675
	Totals.....	128	2389	313512	672	1477	105747	2453	3490036	244163

§ 19 Dip-nets in No. 6.

RECAPITULATION of the Number of Fishermen, Tonnage and Value

Number.	DISTRICTS.	Herring, salted, lbs.		Herring, fresh, lb.	Whitefish, lb.	Trout, lb.	Pickered or Dore, lb.	Pike, lb.
1	Lake of the Woods and Rainy River district.....				326920	49760	291840	132850
2	Lake Superior.....			177300	436520	1767450	25700	1250
3	Lake Huron (North channel).....	2785	35000	1532200	2101050	455390	109450	
4	Georgian bay.....	2584	70280	470670	1397340	66870	41750	
5	Lake Huron (proper).....	457	382000	46500	875230	384800		
6	Lake and River St. Clair and Thames river.....		7800	34950	100	228800	29750	
7	Lake Erie.....	20	2644300	360800	200	1063750	1158950	
8	Lake Ontario.....		886600	190650	83900	69650	223900	
9	Frontenac county.....	9	14400	140	400	50	32100	
10	Leeds and Lanark.....		1090				8700	
11	Prescott, Russell and Carleton counties.....						4000	10000
12	Renfrew county.....			300		700	3900	
13	Nipissing district.....		33900	74650		40900	24700	
	Totals.....	35294	4252580	3474300	6275430	2632540	1775700	
	Values.....	§ 35295	212629	347430	627543	263254	71028	

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FISHERIES—*Continued.*

of Tugs, Vessels and Boats, Fishing Material, &c., for 1904.

MATERIAL.									OTHER FIXTURES USED IN FISHING.				
Seines.			Pound Nets.		Hoop Nets.		Night Lines.		Freezers and Ice Houses.		Piers and Wharfs.		
Number.	Yards.	Value.	Number.	Value.	Number.	Value.	Number Hooks.	Value.	Number.	Value.	Number.	Value.	Number.
		%		%		%		%		%		%	
			12	3500	20	2100			6	2875	2	540	1
			31	9040					9	13690	1	200	2
			83	21500			100	1	10	4550	3	810	3
									13	6825	4	1200	4
4	625	165	74	17090					23	5320			5
75	7080	4394	10	2450	106	5045	3900	145	11	1550	34	4975	6
41	10345	3450	288	98300	6	140	3000	45	98	40415	7	1350	7
3	240	35	+3	450	217	3467	100	50	39	3354			8
					36	616							9
					75	1108			1	110			10
					13	200	1558	78	22	1800			11
							200	3					12
			16	4680					6	520			13
123	18298	8844	514	156560	473	12676	8858	322	238	81009	51	9075	

† Machines.

of Tugs, Vessels and Boats, Fishing Material, &c., for 1904—*Continued.*

Sturgeon, lb.	Eels, lb.	Perch, lb.	Tullibee, lb.	Catfish, lb.	Mixed and Coarse fish, lb.	Caviare, lb.	Sturgeon bladders, number.	Trout, salted, brls.	Whitefish, salted, brls.	Value.	Number
										\$	
41950			3700	125750	19200	2170	130			88,003	1
1250					2500			2293	208	257,067	2
39450				7200	60700	2400	780	228	28	453,259	3
16500		9400		3800	35400	3330	345	638	110	214,312	4
38100		10000		650	76100	200		459		164,736	5
39125		58300		36425	589800	1040				54,189	6
112075		597800	2100	46875	785800	6180	1345		8	381,080	7
4050	45500	213100		205300	423400			1		126,225	8
		3400		31950	14800					5,255	9
		25200		47500	5300					4,079	10
3500		5200		14200	56900					5,113	11
		200		500	400					314	12
189200					17600	13850				39,597	13
485200	45500	922600	5800	520150	2087900	29170	2600	3619	354		
38816	2730	27678	348	41612	62637	20419	2080	36190	3540	1,793,229	

5-6 EDWARD VII., A. 1906

STATEMENT of the Yield and the Value of the Fisheries of the Province of Ontario
for the Year 1904.

Kind of Fish.	Quantity.	Price.	Value.
		8 cts.	8
Whitefish..... brls.	354	10 00	3,540
"..... lb.	3,474,300	0 10	347,430
Trout..... brls.	3,619	10 00	36,190
"..... lb.	6,275,430	0 10	627,543
Herring..... brls.	3,529½	10 00	35,295
"..... lb.	4,252,580	0 05	212,629
Pickercel..... "	2,632,540	0 10	263,254
Pike..... "	1,775,700	0 04	71,028
Sturgeon..... "	485,200	0 08	38,816
Caviare..... "	29,170	0 70	20,419
Bladders..... "	2,600	0 80	2,080
Eels..... "	45,500	0 06	2,730
Perch..... "	922,600	0 03	27,678
Catfish..... "	520,150	0 08	41,612
Coarse fish..... "	2,087,900	0 03	62,637
Tullibee..... "	5,800	0 06	348
Total for 1904.....			1,793,299
" 1903.....			1,535,144
Increase.....			258,085

Comparative Statement of the Yield of the Fisheries of the Province.

Kinds of Fish.	1903.	1904.	Increase.	Decrease.
Whitefish..... lb.	2,632,770	3,474,300	841,530	
" (salted)..... "	34,400	70,800	36,400	
Herring..... "	3,088,150	4,252,580	1,164,430	
" (salted)..... "	653,700	705,900	52,200	
Trout..... "	5,787,310	6,275,430	488,120	
" (salted)..... "	704,800	723,800	19,000	
Bass (white)..... "	6,050			6,050
Pickercel..... "	2,604,540	2,632,540	28,000	
Pike..... "	1,539,325	1,775,700	236,375	
Sturgeon..... "	494,250	485,200		9,050
Caviare..... "	30,550	29,170		1,380
Eels..... "	37,950	45,500	7,550	
Perch..... "	868,700	922,600	53,900	
Catfish..... "	701,750	520,150		181,600
Coarse fish..... "	1,987,000	2,087,900	100,900	
Tullibee..... "	22,250	5,800		16,450
Bladders..... "	710	2,600	1,890	
Total.....	21,194,205	24,009,970	3,030,295	214,530
Total increase for 1904.....			2,815,765	

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RECAPITULATION.

Of fishing Tugs, Boats, Nets, &c., employed in the Province of Ontario for the Year 1904.

Articles.	Value.
	8
128 tugs, 2,389 tons and 672 men.....	313,512
1,477 boats, 2,453 men.....	105,747
3,490,036 yards of gill-nets.....	244,163
123 seines, 14,378 yards.....	6,804
514 pound-nets.....	156,560
473 hoop-nets.....	13,121
75 dip-nets.....	213
8,858 hooks and set lines.....	322
238 freezers and ice houses.....	81,009
51 piers and wharfs.....	9,075
3 machines.....	450
121 spears.....	121
Total	931,007

APPENDIX No. 8.

MANITOBA.

ANNUAL REPORT ON THE FISHERIES OF MANITOBA FOR THE
SEASON OF 1904, BY INSPECTOR WM. S. YOUNG.

SELKIRK, Man., March 1, 1905.

Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour to submit herewith my fifth annual report of the fisheries in this district, including statistics showing the number of men employed, the number of boats, nets, &c., their value, the varieties and quantities of fish caught.

The subdivisions of my district are the same as made in my last report as follows: Lake Winnipeg and tributaries, comprising the principal waterways, as Nelson river, Playgreen lake at the north: Winnipeg river and its expansions flowing from the east, and also the Red river, Lake Winnipegosis, including Lakes Dauphin and Waterhen, Lake Manitoba with Shoal lake a few miles east, and Lake St. Martin rather to the northeast of Lake Manitoba, Lakes Rock, Pelican, Swan and Louise, and a district formed of small lakes to the south and west in the province, the principal ones of which are Oak lake, Clear Water lake, near Riding mountains, White Water lake, near Deloraine, Fish lake, on the boundary line between Manitoba and Dakota and Lake Killarney.

Lake Winnipeg District.

I have much pleasure in reporting a considerable increase in the quantity of fish caught, and also an increase in the amount realized by those engaged in this important industry.

An examination of the statistics herewith inclosed will show an increase in the quantity of whitefish caught, of half a million pounds, pickerel shows an increase of two hundred and fifty thousand pounds, pike or jack fish of twenty five thousand pounds, tullibees of six hundred thousand pounds, catfish of fifty thousand pounds, caviare manufactured of ten thousand pounds, pickled whitefish eggs of fifteen thousand pounds, sturgeon and goldeyes about the same as last year. Fish used for home consumption an increase of four hundred thousand pounds.

The total increase for the Lake Winnipeg district is one million nine hundred and seventy five thousand pounds, or a total net increase in value of \$139,000.

Lake Winnipegosis District.

In this district there is a decrease in the catch of pickerel of one hundred thousand pounds, whitefish of two hundred thousand pounds, goldeyes of twenty thousand pounds, while on the other hand, pike or jack fish show an increase of one hundred thousand pounds, and tullibees of six thousand pounds. In the aggregate for the district there is a decrease in the yield of over two hundred thousand pounds, or an increase in value of a little over three thousand dollars, so that while the catch is a little below the average, the prices realized more than makes up for the decrease in weight.

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The Manitoba District.

In Lake Manitoba, whitefish shows an average catch pickerel an increase over the preceding year of two hundred thousand pounds, pike or jack fish of five hundred thousand pounds, tullibees show a decline of one hundred thousand pounds, or in the aggregate number of pounds, an increase of over five hundred thousand pounds, or an increase in value of \$36,935.

The fish caught in the two latter districts comprising the Pembina river, and small lakes in the south and west of the province are all used in the locality in which they are caught, so do not form any part of our export trade.

For the purpose of comparison we give the following :

	lbs.	Value.
Year 1904.....	32,954,000	\$1,465,990
“ 1903.....	32,232,000	1,295,365
Increase.....	722,000	Increase. . . \$ 170,625

So that in the aggregate number of pounds of the different varieties of fish caught and exported there is an increase of seven hundred and twenty two thousand pounds, or an equivalent increase in value of one hundred and seventy thousand six hundred and twenty five dollars over that of the preceding year.

SYNOPSIS OF OVERSEERS AND GUARDIANS' REPORTS.

Overseer A. J. McPherson, reports that the fisheries of Lakes Winnipegosis, Dauphin, and Manitoba, have been very successful both for the fishermen and companies engaged. The catch of pickerel, pike and tullibees has been about an average one, while the catch of whitefish is below the average. A greater number of applications for license was received during the year, this is accounted for by the influx of new settlers who are locating on the shores of our lakes, the most of whom fish during the winter season. The dividing of Lake Winnipegosis into two parts, setting apart the south end for winter fishing and confining operations in the summer season to the north end of the lake, is having a good effect.

Guardian Wm. Hughes, reports a very successful season's operations throughout his district, which comprises the southern end of Lake Winnipeg and the Red river as far south as Lockport; also the waters of Shoal lake.

Guardian Johannes Magnusson, reports on the fisheries for the Gimli district, which comprises the west shore of the south end of Lake Winnipeg and the fisheries of Big island. He reports on the whole a very successful season's operations, in certain districts there seemed to be a falling off in the catch, but on the other hand large catches were made in the whole district.

Guardian Jos. Polsen, who is in charge of the Red river from Lockport south to the south of the city of Winnipeg, reports that during the year he received thirteen applications for commercial licenses, and one for domestic license, to fish in the waters of the Red river. The season was unfavourable early in the year, on account of the high water, but later, after the water receded the catch was good. During the close season I had to keep a close lookout for scoop-nets, as many foreigners, new comers to the country, persisted in fishing, but once caught they generally obeyed the law.

Guardian H. Chartrand, who is in charge of the fishing at the south end of Lake Manitoba, reports a considerable increase in the quantity of fish caught during the year. The close seasons were well observed.

Guardian James Matheson, reports on the north end of Lakes Manitoba and Fairford river district including Lake St. Martin. The past year has been by far the most successful one on record. The close seasons have been well observed throughout the year.

Guardian James Gray, reports on the waters of Rock, Pelican, Swan, and Louise lakes. Fish were plentiful throughout the year, during the month of March I visited the lakes in my district and cut air holes through the ice. During former years, each

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spring when the ice was gone the shore was strewed with dead fish, but since cutting holes through the ice no dead fish have been seen on any of the shores of the lakes in my district. All the fish caught in my district are used by the settlers for food and are not bartered. I am very pleased to report large numbers of young fish in the streams and lakes in this district.

Guardian T. B. Perry, of Deloraine, reports having made several visits to the fish producing lakes in his district during the year 1904, and has nothing of special interest to report regarding same. The fishing in this district is almost entirely carried on at Long lake, and Lake Drummond, which are expansions of the stretch of water lying between Lake Mack near Boisvert, and Lake Metegoshe, the greater part of which lies in the United States, the fishing is entirely carried on by settlers living near the lakes and the fish caught are pike, pickerel and mullets. I have on two or three occasions heard rumours of parties doing illegal fishing in these lakes and have made trips there for the purpose of detection, but so far have been unable to secure any evidence, which would be sufficient to insure the conviction, and punishment, of the offenders.

I would just say in conclusion, that the year 1904 has been, on the whole, a very successful one, considering that the weather throughout, the year, was very unfavourable, for the carrying on of fishing operations. In some cases nets were set from four days to a week without being lifted, and fish taken therefrom. This of course had a very bad effect on the fishing as a good many of the fish deteriorated before the nets could be lifted, and in consequence were unfit for the market. It is a hard proposition to overcome this loss, as long as gill-nets are used for the capturing of fish in our waters.

Fish of all kinds are very plentiful except sturgeon and whitefish, both these valuable fish seem to be getting scarcer every year. The setting apart as a breeding ground the waters of the Winnipeg river, was a move in the right direction, and will be a benefit to the fisheries of our province as long as it is kept closed to commercial fishing. The waters of the Winnipeg river are teeming with young sturgeon.

The common whitefish in our waters seem to be getting scarcer every year, at any rate they are harder to locate during the fishing season than they were a few years ago.

The action of the department in building a thousand jar whitefish hatchery on Lake Winnipeg filled with spawn will no doubt have the desired effect of increasing the supply of these valuable fish.

While in the aggregate there is a substantial increase in the quantity of fish caught over the preceding year, there was also an equivalent increase in value for the year's operations.

I have the honour, to be, sir,
Your obedient servant,

WM. S. YOUNG,

Inspector of Fisheries.

SESSIONAL PAPER No. 22

RETURN showing the Number of Fishermen, Quantity, Tonnage and Value of Tugs, Boats, Nets, &c., employed in the Fishing Industry in the Province of Manitoba, for the Year 1904.

Number.	DISTRICTS.	FISHING MATERIAL.												OTHER FIXTURES USED					
		Tugs or Vessels.				Boats.		Gill Nets.				Snares.		Freezers and Ice houses.		Piers and Wharfs.			
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Value.	Number.	Value.	
1	Lake Winnipeg and its tributaries	24	2285	231700	211	900	33000	1900	8225	411250	82250	14	462	350	129	125500	38	10600	1
2	Lakes Winnipegosis, Waterhen and Dauphin.....	3	95	18445	24	140	13000	285	3600	180000	36000	.....	.....	.....	25	13080	13	4500	2
3	Lakes Manitoba, Shoal and St. Martin.....	2	24	1950	5	90	3300	200	2500	125000	25000	.....	.....	.....	8	5800	2	150	3
4	Lakes Rock, Pelican, Swan and Louise.....	.....	.....	.....	.....	6	90	6	20	1000	200	.....	.....	.....	.....	.....	.....	.....	4
5	Lakes Oak and Clear Water.....	.....	.....	.....	.....	6	90	6	15	750	150	.....	.....	.....	.....	.....	.....	.....	5
	Totals....	29	2404	252665	240	1142	49180	2337	14300	718000	113600	14	462	350	162	144380	53	15550	

Return showing the Kinds, Quantities and Value of Fish in the Province of Manitoba, for the Year 1904.

Number.	Districts.	KINDS OF FISH.												Number.
		Whitefish, lb.	Pickrel or Pore, lb.	Pike, lb.	Sturgeon, lb.	Perch, lb.	Tullibee, lb.	Gold Eyes, lb.	Catsh, lb.	Mixed and Coarse Fish, lb.	Home consumption, lb.	Caviare, lb.	Pickled Whitefish Eggs, lb.	
1	Lake Winnipeg and its tributaries.....	750000	425000	1225000	600000	125000	1800000	300000	550000	500000	1000000	35000	40000	1,049,000 00
2	Lakes Winnipegosis, Waterhen and Dauphin.....	1300000	1800000	1200000	.....	.....	18000	10000	.....	1000000	250000	.....	.....	229,480 00
3	Lakes Manitoba, Shoal and St. Martin.....	600000	1200000	1800000	.....	15000	250000	1000	.....	750000	250000	.....	.....	184,810 00
4	Lakes Rock, Pelican, Swan and Louise.....	.....	.....	40000	.....	.....	.....	.....	.....	10000	5000	.....	.....	1,750 00
5	Lakes Oak and Clear Water.....	.....	.....	20000	.....	.....	.....	.....	.....	5000	5000	.....	.....	950 00
Totals.....		9400000	7250000	4285000	600000	140000	2068000	311000	350000	6765000	1510000	35000	40000	.....
Total values		564000	320250	14975	72000	4900	72280	10885	44000	135300	45300	35000	6000	1,465,990 00

SESSIONAL PAPER No. 22

APPENDIX No. 9.

NORTH-WEST TERRITORIES.

REPORT ON THE FISHERIES OF THE NORTH-WEST TERRITORIES, BY
INSPECTORS E. W. MILLER OF QU'APPELLE AND HARRISON
S. YOUNG OF EDMONTON.

District No. 1.

QU'APPELLE, N.W.T., January 2, 1905.

To the Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour to submit the following report on the fisheries of the North-west Territories, District No. 1, together with statistical return showing yield of fish, value, &c.

QU'APPELLE DISTRICT.

Throughout this district the exceedingly heavy snowfall of the last winter much diminished the amount of fishing done in that season, and in the spring and summer a higher stage of water prevailed in the various rivers and lakes than noted in any year since 1882. Fish passed up freely into many creeks and lakelets from which they had long been absent and for the spring spawning coarse fish the season was exceptionally favourable. While no increase in the number of men making a regular business of fishing is likely to take place in this district, the great increase in settlement bears fruit in the very much larger number of those who fish partly for pleasure and partly to avail themselves of a desirable and economical addition to their food supply, and small lakes, holding coarse fish only, are considerably valued accordingly by those who live in their vicinity, and even by those who have to travel a considerable distance to visit them.

At Long lake, the winter fishing was much interfered with by the stormy weather and the catch was much lighter than usual. In the spring, the lake rose to such a high level as to be again in free communication with the Qu'Appelle river from which it has been practically cut off for many years. In the summer and fall fish were found very plentiful and this lake seems much improved.

The whole Qu'Appelle valley was flooded in the spring and the water continued very high until September, affording very free passage for fish. In the months of July and August the Qu'Appelle lakes suffered an extraordinary loss of fish, thousands of which were strewn on the shores. Nearly the whole of these were tullibee, the other fish not seeming to be much affected. The subsequent fishing showed that the tullibee had been very much lessened in quantity by this outbreak and the catch was small. A similar di-ease among the tullibee is reported by the Indians to have nearly cleared them out of the lake many years ago. As they appear of late to have taken the place of whitefish to a large extent, it is hoped that their decrease will lead to an increase in the more valuable species.

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THE PRINCE ALBERT DISTRICT.

The earlier part of the year gives no feature of special interest, but with the opening of the winter season an effort was made by the Messrs. Noble Bros., to revive the export business formerly carried on here. A considerable number of licenses were issued for Big Trout and Candle lakes; fish were found plentiful and the results were fairly satisfactory at first, but the buyers complain that owing to the slackness of the fishermen the business proved unremunerative. Applications for commercial licenses were received but not entertained, their issue being considered prejudicial to the interests of the native and resident fishermen. It would seem, however, that under existing conditions the necessary capital for the fuller working of the fisheries is not likely to be forthcoming, experience having shown that a sufficient number of dependable fishermen cannot be relied on in this district. In the more northern lakes the practice of taking the winter's supply of fish during the spawning season is gradually being stopped, and the supply of fish continues more than amply sufficient for the local necessities.

The winter fishing in the *Cumberland district* is confined at present to meeting the domestic demand, but through the summer the sturgeon fishery was actively pursued, the fish being collected by tugs plying regularly between Cumberland and High Portage (the crossing between, Cedar lake and Lake Winnipegosis). Some little irritation was at first shown by the resident fishermen at the licensing of a few pound-nets, but they were quick to realize that this formed the necessary nucleus for the opening up of a valuable industry to them. The catch by gill-nets vastly exceeded the quantity taken in the pound-nets, the fishermen received a good price for their fish, and the district generally has certainly largely profited by this export of its surplus fish. At Clearwater and adjacent lakes there is an abundance of splendid whitefish, and a large catch was made last winter, but owing to distance and stormy weather, they could not be profitably marketed and these lakes are not being fished for other than domestic purposes this winter. At Moose lake, where the experimental fishing of last winter proved very successful except as to the transport facilities, applications for licenses were very numerous: a regular freighting route from the lake to Mafeking station on the Canadian Northern Railway was laid out, and the results are proving highly satisfactory to those engaged in the fishery, the whitefish proving very plentiful and of excellent quality. The sturgeon fishery here has not proved good and is now comparatively neglected.

In *Cedar lake*, sturgeon continue to be the most sought. Comparatively low water prevailed throughout the year and very fair average fishing was done in both winter and summer seasons, the supply of fish remaining apparently undiminished.

The fishing in the Nelson river waters apart from the catch by the natives for food supply, is confined to sturgeon. The difficulties of transport are considerable, fish having to be brought up stream and repeatedly transhipped owing to the many portages around rapids, &c. The parties operating here are bringing fish from as far down the river as Sepi Wesk lake, the transport from which place necessitates the use of three tugs and several boats on the different stretches of water before reaching Lake Winnipeg, across which the fish have to be taken to reach railroad. Though the expense of transport is thus very large, the buyers are confident that a profitable business could be done if sufficient reliable fishermen could be retained to ensure a steady supply of fish when the boats are running. A visit to the Nelson river country is sufficient to dispel any fear that it is possible for these waters to become depleted until the number of available fishermen is immensely greater than at present.

While there is a steady pressure on the part of the commercial fishermen to get into the waters north of the Saskatchewan where the catches in practically virgin waters give results not now obtainable in the lakes farther south, the rights of the native and other residents are being strictly preserved. The amount of fishing done by the latter is, however, seldom sufficient in itself to induce the opening of freight routes, &c., necessary to make the catch marketable, and the fish in such waters would remain an unrealizable asset if fishing by outsiders was entirely prohibited. The licensing of such parties does much good therefore as forming a nucleus for the establishment of a profitable industry, in which the Indian and Half-breed residents of these isolated districts can freely participate.

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The regulations are reported as being well observed in all districts where officers are stationed, though there is probably a quantity of coarse fish taken illegally in the spawning season on the smaller rivers and creeks. An illegal seine was seized at Katepiwe lake in September but no owner could be discovered. Several persons were fined for fishing with dip-nets, spears, &c., in the close season, but no cases were brought against licensed fishermen.

I have the honour to be, sir,

Your obedient servant,

ERNEST W. MILLER,

Inspector of Fisheries.

N. W. TERRITORIES, District No. 2.

EDMONTON, 21st February, 1905.

To the Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour to transmit, herewith the annual returns and statistics of this district, and beg in connection therewith to submit the following remarks.

I have as usual to regret that my returns, are not made up by actual count or weighing of fish, but are largely an estimate, neither do they by any means contain the full amount of fish killed. Every year, however, shows a little improvement, and I hope in time to be able to submit returns as accurate, as it is possible to obtain them. I may state, however, that the returns of Buffalo lake, Pigeon lake, Lake Ste. Annes, Lake La Lune, Whitewhale lake, Lac La Biche, Beaver lake, and Lesser Slave lake, are fairly accurate.

This district is so large, and is settling up so rapidly (I refer to Alberta and not to unorganized territory in my district) that conditions in it are rapidly changing, places that to day are solitudes will have become well populated by this time next year. This will call for an increased number of local guardians, if the coarse fish are to receive even a measure of protection.

The district during the past season has been better patrolled than ever before, and though I cannot say that all streams and lakes, received all the protection I would like to see them have, yet I think that good work was done. Many dams were broken down, and a number of small meshed nets were seized, also a number of spears. The fact that a guardian had visited a lake or creek, and might make another visit at any time, has no doubt a deterrent effect on those inclined to break the regulations. Several parties were prosecuted, convicted and fined during the past year.

I find that the Half-breed and Indian population are much more law-abiding and obedient to the fishery regulations, than the more civilized settlers who are coming into the country. Many of the latter seem little inclined to observe the regulations unless they see that to break them, might get them into trouble, hence the necessity of having more local guardians in the more thickly settled parts of the district. I am pleased to report that apparently the black bass, put into Buffalo lake are thriving; two have been caught this winter, and they have grown well. As none have been found dead it is allowable to suppose that all are doing well.

The waters of the district were never much better stocked with fish than at present. The high water of past six of seven seasons, has permitted the fish to ascend all creeks

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freely, and many lakes, that in dry years become nothing more than hay swamps are now filled with pike of an eatable size. The Whitefish lakes, viz.: Pigeon lake, White Whale lake, Lac Ste. Annes, which are all at present fished for market still continue to yield well. The fish finds a ready sale at good prices both for local use, and for export to British Columbia, and to the eastern markets in the United States.

The Athabasca Fish Co., that have a lease to fish in Lesser Slave lake, have transferred their rights to Messrs. Butterfield and Dee, who are fishing this season; owing to the late date on which they began operations, and that it was their first season at the lake and also to difficulty in obtaining freighters to transport the fish, the output from this lake has not been as large as was expected.

This company has spent quite a large sum in purchasing supplies for their men, (26 employed) and for packing boxes, payments to freighters, &c. They have also been buyers of all fish they could get from White Whale lake, and have spent a considerable sum in the district. Next season they expect to ship a much larger amount of fish. Should they realize their expectations, and if the native population of Slave lake, continue to fish throughout the spawning season, I do not think that the fisheries of Lesser Slave lake will amount to much in four years, unless the Fish Company establish a hatchery there at once.

I would strongly recommend that all protection possible be given this lake during spawning season, and that the Fish Company be urged to establish a hatchery.

In conclusion I would again make the same recommendation as I made in my annual report last year, viz.: that the close season for whitefish be extended to the 1st of January in lakes on south side of the Saskatchewan, and to 15th December on north side, or even if it was made general on 1st January it would do no harm.

That $5\frac{1}{2}$ inches be made the minimum size of mesh for nets to be used in lakes containing whitefish, and 5 inches in other lakes.

I would further recommend that dealers be prohibited from offering nets for sale of less than 5 inches mesh. Really nets should not be sold less than $5\frac{1}{2}$ or $5\frac{1}{4}$ inch mesh, as when a 5 inch net is put in the water it shrinks $\frac{1}{8}$ of an inch or more.

The guardians employed in this district have given good service the past season, and are all, interested in their work, and ready to carry out any instructions given them.

I am, sir,

Your obedient servant,

HARRISON S. YOUNG,

Inspector of Fisheries.

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NORTH-WEST TERRITORIES.—DISTRICT No. 1.

RETURN of the Number of Fishermen, Tugs, Boats, Nets, &c., and the Kinds and Quantities of Fish in the District No. 1 of the Northwest Territories for the year 1904.

DISTRICTS.	FISHING MATERIALS.										OTHER FIXTURES USED IN FISHING.				KINDS OF FISH.							VALUE.	Number.
	Tugs.			Boats.		Gill Nets.		Freezers and Ice Houses.		Piers and wharfs.		White-fish, lb.	Trout, lb.	Pickarel, lb.	Pike, lb.	Sturgeon, lb.	Perch, lb.	Tullibee, lb.	Mixed and coarse fish, lb.	Caviare, lb.			
	Number.	Tonnage.	Value.	Number.	Value.	Fathoms.	Value.	Number.	Value.	Number.	Value.												
1 On Appelle	70	1160	56	5600	800	..	..	..	21000	..	..	85000	120000	..	..	40000	35000	..	10,210 00	1
2 McLeod	25	300	5	450	75	..	..	..	500	..	..	5000	8000	..	..	5000	..	..	2,020 00	2
3 Battleford	30	300	14	6000	600	..	..	..	130000	..	..	18000	20000	1000	..	25000	..	..	10,690 00	3
4 Prince Albert	245	2750	72	25000	2500	..	..	..	500000	..	..	180000	200000	18000	..	50000	..	..	45,880 00	4
5 Cumberland	200	2000	32	6000	1000	..	..	..	120000	..	..	10000	40000	120000	..	5000	..	..	24,650 00	5
6 Grand Rapids	250	2300	163	18000	2800	..	..	..	375000	..	..	60000	100000	75000	4000	40000	50000	500	41,870 00	6
7 Nelson	3	6000	12	35000	3500	..	..	..	250000	..	..	50000	75000	180000	..	20000	50000	7500	49,650 00	7
Totals	8	180	21000	33	1300	377	96050	11275	28	6500	8	350	1416500	55000	408000	563000	334000	4000	105000	380000	8000	184,900 00	
Values	84990	3300	16320	16890	47280	120	4200	3800	8000	..	184,900 00	

DISTRICTS.	FISHING MATERIALS.										OTHER FIXTURES USED IN FISHING.				KINDS OF FISH.							VALUE.	Number.
	Tugs.			Boats.		Gill Nets.		Freezers and Ice Houses.		Piers and wharfs.		White-fish, lb.	Trout, lb.	Pickarel, lb.	Pike, lb.	Sturgeon, lb.	Perch, lb.	Tullibee, lb.	Mixed and coarse fish, lb.	Caviare, lb.			
	Number.	Tonnage.	Value.	Number.	Value.	Fathoms.	Value.	Number.	Value.	Number.	Value.												
1 On Appelle	70	1160	56	5600	800	..	..	..	21000	..	..	85000	120000	..	..	40000	35000	..	10,210 00	1
2 McLeod	25	300	5	450	75	..	..	..	500	..	..	5000	8000	..	..	5000	..	..	2,020 00	2
3 Battleford	30	300	14	6000	600	..	..	..	130000	..	..	18000	20000	1000	..	25000	..	..	10,690 00	3
4 Prince Albert	245	2750	72	25000	2500	..	..	..	500000	..	..	180000	200000	18000	..	50000	..	..	45,880 00	4
5 Cumberland	200	2000	32	6000	1000	..	..	..	120000	..	..	10000	40000	120000	..	5000	..	..	24,650 00	5
6 Grand Rapids	250	2300	163	18000	2800	..	..	..	375000	..	..	60000	100000	75000	4000	40000	50000	500	41,870 00	6
7 Nelson	3	6000	12	35000	3500	..	..	..	250000	..	..	50000	75000	180000	..	20000	50000	7500	49,650 00	7
Totals	8	180	21000	33	1300	377	96050	11275	28	6500	8	350	1416500	55000	408000	563000	334000	4000	105000	380000	8000	184,900 00	
Values	84990	3300	16320	16890	47280	120	4200	3800	8000	..	184,900 00	

NORTH-WEST TERRITORIES DISTRICT No. 2.

RETURN of the Number of Fishermen, Boats, Nets, &c., and the Quantity and Value of Fish caught in the North-west Territories for the Year 1905.

Number.	Districts.	FISHING MATERIAL.					KINDS OF FISH.							Value.	Number.
		Boats.		Gill Nets.			Whitefish, lb.	Pickereel, lb.	Pike, lb.	Perch, lb.	Tullibee, lb.	Mixed and coarse fish, lb.			
		Number.	Value.	Men.	Number.	Fathoms.							Value.		
1	Lac La Piche	60	600	72	216	6480	648	300000	120000	40000	.....	20000	150000	21,300	1
2	Lakes Heart, Whitefish and Saddle	50	405	82	215	6450	645	158000	.....	.....	.....	.....	43000	8,330	2
3	Lakes Beaver, Dried Meat and Buffalo	41	235	700	80	2400	185	.....	.....	150000	.....	.....	125000	4,250	3
4	Pigeon lake.	15	150	50	250	7500	750	175000	20000	2000	500	.....	15000	9,550	4
5	Lakes Conjuging, Gull and Little Devil's	24	210	500	110	3300	330	.....	.....	12000	1000	.....	15000	450	5
6	Lakes Ste. Anne and White Whale	34	340	125	280	8400	830	200000	5000	13000	.....	10000	3000	15,000	6
7	Lakes Baird, Jackfish, Baptiste and Lac La Laine	28	250	55	116	1980	200	25000	1000	3000	.....	.....	4000	1,770	7
8	Saskatchewan and Battle rivers, Big and other lakes	38	180	200	95	2850	260	5000	.....	3000	.....	.....	40000	770	8
9	Lesser Slave lake.	.....	.....	26	40	5450	1630	92540	.....	.....	.....	.....	4000	4,667	9
Totals		290	2570	1510	1402	44810	5478	1045540	146000	235000	1500	30000	410000
Values.....		52277	4380	4700	30	600	4100	66,087

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RECAPITULATION

Of the Yield and Value of the Fisheries of **Manitoba** and the **North-west Territories**, for the Year 1904.

Kinds of Fish.	Quantity.	Price.	Value.
			\$
Whitefish..... Lb.	11,862,040		701,267
Trout..... "	55,000		3,300
Pickarel..... "	7,804,000		346,950
Pike..... "	4,983,000		171,565
Perch..... "	145,500		5,050
Sturgeon..... "	994,000		119,280
" caviare..... "	43,000		43,000
Whitefish eggs..... "	40,000		6,000
Tullibee..... "	2,143,000		77,180
Catfish..... "	550,000		44,000
Gold-eyes..... "	311,000		10,885
Coarse fish..... "	7,555,000		143,200
Fish used for domestic consumption not included alone..... "	1,510,000		45,300
Totals.....			1,716,977

RECAPITULATION

Of the Number of Fishing Boats, Nets, &c., used in **Manitoba** and the **North-west Territories**, for the Year 1904.

Articles.	Value.	Total.
	\$	\$
37 Fishing tugs (2,584 tons) (273 men).....	273,095	
2,752 " boats (4,286 men).....	65,860	
		338,955
18,162 gill-nets (858,860 fathoms) ..	160,353	
14 seines (462 fathoms) ...	350	
4 pound-nets, ...	3,000	
1,500 hand and night lines.....	3,000	
		166,703
190 freezers and ice houses.....	150,880	
61 fishing piers, &c.....	15,900	
		166,780
Total.....		672,438

APPENDIX No. 10.

BRITISH COLUMBIA.

REPORT ON THE FISHERIES OF BRITISH COLUMBIA FOR THE YEAR
1904, BY INSPECTORS C. B. SWORD AND J. T. WILLIAMS.

District No. 1.

NEW WESTMINSTER, B. C., April 17, 1905.

To the Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour to inclose statistics for District No. 1 of British Columbia of the fisheries, for the year ending December 31, 1904.

Since my last report, the province has been divided into two inspectorates, District No. 1 comprising Vancouver island, the Straits of Georgia south of Cape Mudge and the Mainland watershed south of Bute inlet.

With regard to the statistics herewith inclosed, it must be borne in mind that the quantities are obtained from the ports at which the fish are landed, and thus some fish taken in District No. 2 appear in the statistics of this district. This particularly applies to the case of halibut, nearly all of the large quantity shown having been taken in the waters of District No. 2.

The revenue from this district, is between \$7,000 and \$8,000 less than in 1903. This is accounted for by the smaller number of drift-net licenses taken out; 2,224 in 1904, against 3,161 in 1903. And in view of the poor run of salmon, this reduction in the number of boats fishing, is a matter of congratulation.

With the exception of canned salmon, the returns generally show an increase over last year; in fact, in spite of the poor salmon pack, the total fish catch exceeds that of 1903 by more than \$150,000.

The change made last session in the Fisheries Act, allowing the use of explosives in the whale fishery, has already been taken advantage of by a Victoria company who have selected a site on Sechart channel, Barclay sound, on which to prosecute this industry. They have the necessary buildings well advanced to completion, and have also brought out a specially equipped steamer from Norway.

SALMON.

The pack of canned salmon for the district has been very small this year, 143,791 cases against 249,522 in 1903, 343,608 in 1902, and 348,433 in 1900, the year corresponding to this in the four year cycle.

I am indebted to Mr. Henry Doyle, of Vancouver, who has taken great interest in the matter, for the table which I inclose showing the pack of Fraser river sockeyes since 1876, and the capacities of the canneries operating in each year.

While the legislature of the state of Washington did not, as requested by some of the cannerymen and assented to by the Dominion government, make provision for closing down sockeye fishing absolutely for the seasons of 1906 and 1908, they did make provision for a weekly close season of 36 hours, similar to the weekly close season on the Canadian side. This, if enforced, cannot but be of advantage in increasing the supply of fish on the spawning grounds.

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We have at present no data as to the rate of progress of the fish towards the river from the time they first appear in the Straits of Fuca. When reliable data, in regard to this, have been obtained, some arrangement may be come to between the two governments, to adjust the respective close seasons, so that the greatest advantage in regard to the supply of breeding fish may be obtained. Meantime the consent of the state of Washington to the establishment of a weekly close season is a great step in advance.

While the canned salmon shows such a large decrease this year, this is almost made up by the large increase in the dry salt dog-salmon, put up for the Japanese market, there being close on 15,000,000 lb. against 16,000,000 last year.

The law having been changed to allow traps to be operated in British Columbia waters, thirty-three licenses were taken out, but only four traps operated. Of these, two in the Straits of Fuca were got in in time for the sockeye run, and the owners expressed themselves as fairly well satisfied with the experiment. The other two, one near Victoria, and the other at Bedwell harbour, Pender island, were not put in till after sockeye run, and were more for the purpose of experiment as to the catch that might be expected than for remunerative returns for the season.

Halibut and herring both show large increase. A reference to former reports will show that both of these fisheries have been making steady and rapid progress.

The experiment of canning herring mentionned in my last report, does not seem to have been sufficiently successful pecuniarily, to justify its continuance.

I have the honour to remain, sir,

Your obedient servant,

C. B. SWORD,

Inspector of Fisheries.

BRITISH COLUMBIA. District No. 2.

PORT ESSINGTON, B.C., March 30, 1905.

To the Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour to inclose my statistical report of the fisheries of northern British Columbia, District No. 2, for the year ending December 31, 1904, including statement of salmon packs of the different canneries.

These returns show an increase in the aggregate of \$1,903,046 as against \$1,324,493 in 1903.

This is accounted for by the magnificent "run" of sockeye on Rivers inlet; in fact the canneries in all parts of the district show an increase, the "run" being exceedingly good.

SALMON.

The total pack of salmon for the district for the season of 1904 is as follows:

Sockeye.....	243,384	cases
Cohoe.....	22,840	"
Spring.....	24,583	"
Humpback.....	31,296	"
Total.....	322,103	"
As against season 1903:		
Sockeye.....	155,053	"
Cohoe.....	25,131	"
Spring.....	22,935	"
Humpback.....	21,060	"
Total.....	224,179	"

Referring again to the large increase shown in the aggregate salmon pack, I may say that climatic conditions invariably influence the catch of salmon in this district, consequently a fine fishing season like 1904 produces a good pack and vice versa. There are no cycles or "fourth" years in this district as on the Fraser.

SKEENA RIVER.

With regard to the Skeena river I may say that the conditions existing at the head waters are dangerous in the extreme (a detached report of which I herewith inclose), more especially on the Babine lake, and unless drastic measures are adopted by the department at once to check the illegal fishing by the Indians, now in operation and to ensure the protection of the salmon, we may speedily look for the complete annihilation of this valuable fish and entire depletion of the river, and shall have another example of ruination of an extensive industry exactly coexistent with the conditions prevailing on the Fraser river at the present time. If the department carry out my recommendations in this matter, in propagation and protection, I see no reason why the Skeena river in the course of five or six years, should not improve in the quantity and quality of its salmon, so that it will compare favourably with the Fraser river in its most palmy days.

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With reference to the obstructions on the Skeena river and its tributaries, instructions have already been given by the department and the removal of some of these impediments to the salmon in ascending to their spawning grounds is now in progress.

With the erection of a hatchery, that the department have now under consideration, the protection of the head waters and the removal of the obstructions, and barricades, I look forward, with confident expectation, to an immense improvement in the "run" of sockeye on the Skeena river, in the near future.

NAAS RIVER.

With reference to the Naas river the principal troubles in connection with the salmon fisheries, are first and foremost an obstruction on a tributary of this river running from the Siax lake. Negotiations for the removal of which by the department are now in progress, and it is anticipated that said obstruction will be entirely destroyed before the salmon ascend to their spawning ground in the early fall.

The other trouble on the Naas river, is the accumulation of snags, on the principal drifts, within four or five miles of the mouth. These are a serious hindrance to the successful operation of gill-nets. I therefore strongly recommend a snag scow for use in these waters, as it would materially benefit the fisheries.

RIVERS INLET.

With reference to Rivers inlet, I am pleased to be able to report that the fisheries in these waters are in a very satisfactory condition. The officer I sent up to the spawning grounds last fall to check any illegal fishing operations by the Indians, reported to me that he saw no infringements of said regulations, no barricades of any description, and after cautioning the Indians, and informing them of the different items in the fisheries regulations especially referring to them he returned. I am pleased to state that the hatchery now practically under construction on Oweekayno lake will be in operation by the fall. This being a twenty million capacity hatchery it will materially assist in improving the "run" of sockeye on this inlet.

NORTHERN COAST.

With regard to the other northern coast fisheries I may say that I have no fears for their depletion. They are fished fairly and systematically and the weekly "close" season is rigorously enforced. We had of course some infringements of the regulations during the season, but nothing of a very serious nature.

Referring to the market for qualo or dog salmon, I may inform you that the demand has greatly increased, in consequence of the Japanese going into the business, for the purposes of exporting the dried article to Japan, ostensibly for use in the Japanese army. The price is doubled within the last three months, and I anticipate a very considerable increase during the ensuing season of 1905.

HALIBUT.

I may inform you that three-quarters of the whole of the British Columbia catch of halibut are taken in my district, viz., District No. 2, and are brought in the steamers to the port of Vancouver, from which place they are shipped to their destination; only a small quantity being exported direct from the district, therefore their statistical returns are forwarded to the department by Inspector Sword in his report.

It has been customary, for the inspector, from whose district the fish are shipped, to make the returns to the department.

I have already drawn up and submitted to the department, a draft code of regulations, and suggested an amendment to the "Fishing by Foreign Vessels Act," for the better protection of our deep-sea fisheries, and trust that this immensely valuable commercial product will receive the protection of the department, otherwise foreign vessels will undoubtedly deplete our halibut fisheries, as they have already done our fisheries in District No. 1.

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OULACHON.

The returns of these delicious "small fish," show a decrease in the catch this season, owing to the fact that the Indians were unable to reach the fishing grounds on the Naas river, the "home of the oulachon."

During the month of April, all Indians for 100 miles around, proceed in their canoes to the Naas river, for the purpose of catching oulachons, and extracting the grease from them for food. Last April, however, there was a terrific gale blowing down the river, for eight weeks in succession, and they were unable to reach the fishing grounds, some 20 miles up the river; they eventually hired a tug but she was unable to proceed up river with her tow of canoes, on account of the heavy wind. The whole river was enveloped in a heavy fog caused by the wind catching up the water and atomising it, the Indians never reached the grounds and returned to their reserves.

With regard to the different species of edible fishes that frequent the waters in my district, I may say that there is an almost inexhaustible supply of salmon, halibut, oulachon, herring, all the different species of cod, bass, trout, &c., &c., and whales innumerable, but the population being so sparse, there is little or no fishing outside the salmon and halibut. Though I am credibly informed that there are several companies already formed that contemplate operating this coming season.

In view of the greater interest now being taken in the utilization of our deep sea fisheries, I consider it most desirable that the regulations under which these are to be prosecuted should receive the immediate attention of the department.

I have the honour to be, sir,

Your obedient servant,

JOHN T. WILLIAMS,

Inspector of Fisheries.

Fishery Officer Hans Helgeson, of Port Essington, submits the following report of his work and observations during a visit of inspection to the Babine lake and tributaries, and the head waters of the Skeena river.

As frequent rumours came to the office that rivers and streams in the upper country were barricaded, and that salmon were prevented from reaching their natural spawning grounds, it became necessary to send some officer up to ascertain the facts, and, if possible, to remedy the evil.

So, as directed, I left Port Essington in company with Mr. Nordschow, fishery officer, the 6th September on Str. Hazelton, for Hazelton town, on upper Skeena, where we arrived on the 9th, distance 180 miles. After engaging an Indian and horses, we left Hazelton for Babine lake on the 12th of September and reached Babine village on the 14th, distance 65 miles.

We were kindly received by Mr. Waer, the gentleman in charge of Hudson Bay post, to whom I am much indebted for valuable information. Chief George being away, the next in command was Atio.

On the 15th we borrowed a little canoe, and hired two men and started down Babine river 7 miles, where we found two barricades half a mile apart, in full swing fishing, and crowds of Indians could be seen on the banks.

The barricades were constructed of an immense quantity of materials, and on scientific principles; I will endeavour to describe them. There were posts driven into the bed of the river, which is 200 feet wide, and from two to four feet deep, and running swiftly at the intervals of 6 or 8 feet.

Then sloping braces well bedded in the bottom and fastened to the top of posts, then strong stringers all the way on top and bottom, in front of posts, then panel beautifully made of slats woven together with bark set in front of all, these were set firmly into the bottom, and reaching 4 feet above the water. This made a magnificent fence which not a single fish could get through.

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FISH TRAPS OR BINS.

On the upper side of dam were placed 12 big traps or fish bins. Opposite holes made in the panels for fish to enter the traps, prepared with slides to open and shut, and if the traps did not have a sufficient quantity of fish in them, when the women wanted more fish on the bank, the men would take their canoe poles, wade out in a line and strike the water, making a noise which could fill the traps in a moment, then shut the slides down, take a canoe on each side of bin, raise the false bottom, by some contrivance so as to elevate the fish, then load up canoes with gaff hooks.

Altogether the barricades presented a most formidable and imposing appearance.

CHIEF ATIO.

I found Chief Atio at the lower barricade, he is an old man and does not know English, but had provided a good interpreter. I informed him that I was sent by the government to destroy and remove all barricades and any other obstructions that prevent the salmon from getting up to their natural spawning grounds. That the government had wisely adopted this policy on account of salmon having sadly diminished in all the rivers along the coast just on account of barricades in nearly every stream throughout the whole country. That the fish which providence intended to go into lakes and streams for the purpose of propagation were slaughtered at the barricades before they had spawned, and I gave him to understand that the barricades must be removed immediately.

And at intervals during the conversation I explained the fishery laws and regulations, that they must not use barricades and only fish one third the channel with their nets or any other contrivance, that they must observe the close season, they must not sell fish as they had done in the past, but only take enough for themselves and their families, and must not kill more fish than they use and not waste any.

The chief advanced many points and some of them were well taken, he said they have had an indisputable right for all time in the past, that if it was taken away the old people would starve, that by selling salmon they could always get *iktahs*, and he wanted to know to what extent the government would support them, he thought it unfair to forbid them selling fish when the cannerymen sold all theirs, and I had to promise him to tell the government to compel the canners to let more fish to come up the rivers, as some years they did not get enough, that the canners destroyed more spawn than they, that formerly he could not see the water below his barricade for fish, that they were so plentiful that some of them were forced out on the beach, but latterly they had diminished, little by little every year. I met all his arguments in a prompt manner, and set back those who showed a spirit of resistance, by telling them that they had committed a gross breach of the law, that they had put in their barricades this year notwithstanding the inspector had by letter forbid them to do so, and that if they resist and do not destroy the barricades nothing will save them from punishment or imprisonment.

At that a goodly number went and worked away in the cold ice water, chopping and breaking it down, after about two hours when they could stand it no longer they came up to me and demanded, that the government should pay for taking it out, and no amount of threats and persuasion could get them at it again, and to end all the talk and to get the remainder of it out, I had to hire six Indians who took out the last stick; what was dry of the upper works they took on shore for fire wood, the rest they let go with the current. Some of the fish bins they drag to shore. Although it was the last of the season when we came there, the barricades were still fishing, and about 500 or 600 sockeyes had been landed that day, from each trap, and those fish must have been principally females, as they showed an uncommon amount of spawn when cleaned.

Re DRIED SALMON.

The banks of the Babine river have a lovely appearance at this place and a most wonderful sight met our eyes when we beheld the immense array of dried salmon. On either side, there were no less than 16 houses 30 x 27 x 8 feet filled with salmon from

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the top down so low that one had to stoop to get into them and also an immense quantity of racks, filled up outside. If the latter had stood close together they would have covered acres and acres of ground, and though it was impossible to form an estimate, we judged it to be nearly three quarters of a million of fish at those two barricades, all killed before they had spawned, and though the whole tribe had been working for six weeks and a half it was a wonder that so much salmon could be massed together in that time.

The owners of the upper barricade, had certain rights in the fish, yet they had to depend largely on the clemency of the people of the lower one, to let the fish through for their supplies.

On the 17th left Babine village to destroy barricades on streams along the lake.

TATCHI RIVER.

On the 19th made Tatchi river, this is a great sockeye stream on the west side of lake, nearly all the people had left, as fishing was over, they had taken away quite a lot of fish and a great quantity of dried salmon was left, we destroyed their barricade and left.

TILTITCHA RIVER.

On the 20th made Tiltitcha or Parce river. This stream also comes in from the west, they had quit fishing and we only found two old women home. Only one family fish there, the man had gone to Babine village with a canoe load of dried salmon. They had piled the rest of their fish together and these amounted in bulk to the equal of three cords of wood, we demolished their barricade and came away.

FIFTEEN MILE RIVER.

On the 21st we reached Fifteen Mile river and found it deserted, nearly all the fish had been removed, though I counted over 2,000 left on a couple of racks. We destroyed the barricades and as usual took their trail in order to see what there was above. We soon came to a permanent dam, a big cotton wood tree had been felled, across the river, well pinned up behind with rocks, in front were stakes and brush, with a multitude of dead fish in front of it. The dam was nearly as tight as a bottle, and forbid even a single fish to get up, though there were quite a quantity of fish above it, which had no doubt gotten over the dam in a higher state of water, and like in the other two streams there were thousands of sockeyes below that could not get up well, amid a horrible stench. We chopped out the log, pulled the brush on shore, and cleared the centre of channel for a space of 30 feet, then made a bonfire of a big lot of panels and baskets.

SPAWNING GROUND.

The three last rivers were very low, but in their normal state they are streams of considerable magnitude, and all famous sockeye rivers, and we saw a multitude of salmon in each, and many of them were still spawning. The spawning ground on these rivers extends for a half or three quarters of a mile from their mouth and were almost covered with spawn, and about two thirds of it doing well, also there are splendid spawning grounds from opposite Babine village, running down the river for about two miles and a half, with beautiful bars in the middle of river, all made into hills and hollows by the sockeye spawning, and only in one instance on the last named streams did we find a bar where the spawn had perished, on account of the water having left it dry.

BEAVER RIVER.

On the 22nd we reached Beaver river, at head of lake found a barricade a mile up stream still fishing but no people there. This river is about 100 feet wide, 8 feet deep, and mud bottom. The salmon go through it and enter Bear creek ten miles up, where they

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spawn. There were two contrivances with which the fish were caught. In this barricade of a peculiar kind, a tunnel was made 6 feet wide, nicely fitted into the wall of the barricade, and narrowed down to 1 foot in 12. Then tunnels one foot wide joined one which lead into a bin 40 feet above the dam, where fish had accumulated. The other had a similar mouth and a small tunnel reached up stream a similar distance, fastened to stakes with ropes at intervals. We demolished the bin and tunnel first, then pulled up the rope. Here we found that the small tunnel was securely closed at its end. It was wedged full of live sockeyes. They could not turn nor could they get back. We cut and disjoined everything and let the fish go, and had a fearful job getting all the deep pannels and posts out of the sticky bottom. When we left, the river was full of material and debris for quite a distance.

ONLY FIRST RUN OF SALMON REACH BABINE.

As I have already stated that no fish could get through the two great barricades at Babine, the question may be rightly asked, how did the salmon get into the lake? But this is easily explained, the Babine people do not care for the few stragglers that come along first, they close their barricades when the fish begin to run good, so it can be easily seen that only part of the first run get into the lake, and there are no less than four barricades along the lake to catch them. There is only one redeeming feature, behind the old fort, 25 miles from the village an arm of the lake runs into the east shore, where a large creek runs in from the north. Miners from Omenica have to cross it, coming and going to their mines. Some of them told us that there was a great quantity of fish in this creek this season, and not disturbed as no one was fishing in that creek. There are other streams coming into this arm with a number of lakes on them, and the Indians told us that salmon formerly went up them in large numbers, but they were fished out with barricades, and no fishing had been done there for years. We were also told that the remains of numerous barricades could yet be seen there.

Babine lake is a beautiful sheet of water. At either end there is a rolling country for a few miles, but for a distance of 80 miles, the mountains cannot be seen. The shores on either side consist of unbroken plateau, running along for miles, with gentle slopes all clad with willow, birch, interspersed with spruce, all the former had put on the golden hue, which made it a beautiful and lovely sight to behold.

Branded salmon.—On the 20th we left Babine and reached Hazelton on the 28th. I am greatly indebted to Mr. Loring, Indian Agent there, for valuable information as to the names and localities of Indian villages, &c. There are 2,951 Indians in his district. Mr. Loring kindly gave me a salmon caught at Kiskigas, which is branded on both sides with the letter W, or M. The Indians caught several of them this year for the first time. It created quite an excitement among them, as the brand was so strikingly clear before the fish was cut. They called it government salmon; where did it come from? Can it be that the United States officials branded salmon when they branded seals on Pribiloff islands.

Bulkley river.—From information received I found it necessary to make a journey to Morricetown, 30 miles up the Bulkley river, and when the heavy rain that lasted for days had abated we left Hazelton on the 4th of October, and reached Morricetown, an Indian village, situated on the west bank of the Bulkley river, on the 5th, this is a beautiful stream 140 miles long, fully as large as the Babine, one of its branches heads within a few miles of Babine lake, its other two branches run in a southerly direction, and head towards the Oatsa country. It has numerous lakes, and was formerly one of the greatest propagation branches of the Skeena, but I found that the farmers of the valley told the truth, when they said that of late years the Indians were determined not to let a single salmon pass them. At Morricetown we found only half a dozen Indians, and about a score of old women, who evidently knew our purpose as they gave us Hail Columbia.

Canyon and Falls.—On examining the canyon I found it about 250 yards long, the narrowest part 1 foot wide, and from the numerous paths, stagings, ladders, &c., I could judge that the canyon during the fishing season was lined with Indians, hooking and catching salmon by every conceivable contrivance. They even shove

out a long pole with a rope through the end of it, from one side to a crevice on the other side, bend on the trap or basket, haul it to the other side, lower it down, and when a sufficient quantity of salmon enter, they haul it back; every salmon that comes up that foaming boiling cauldron, goes into the little eddies for rest, and every eddy is filled with contrivances for his capture, but if indeed some of the fish are lucky enough to escape the multitude of hooks and traps in the canyon a worse fate awaits them at the falls immediately above, where they are in low water during fishing season by all accounts, 14 feet high. Behind the falls is an array of various kinds of traps and baskets, the salmon keeps on jumping incessantly to get up, and falls back into the baskets, thus only a very few fish get up the river to the lake, and I could see no other way to remedy the evil in that narrow place where the salmon is entirely at the mercy of the Indians, so by the authority of sub-section 16, clause 5, chap. 51, and others in the Fisheries Act, I placed a notice above the falls, and another at the lower end of the canyon, which strictly forbids fishing of any kind for a distance of 300 yards. I might have excluded surface fly fishing but there are no sportsmen in the vicinity.

On the 7th we left Morricetown and reached Hazelton on the 8th. I beg to draw your attention to the necessity of spending about \$500 to blast out two shelves of rocks, on the west side of the canyon, in the Bulkley river, the water would then form a more uniform grade so that the fish could get up and replenish this noble river and lake.

Copper River.—We left Hazelton on the 10th and reached Copper river on the 12th. This is also a river of considerable magnitude, and empties into the Skeena from the east, three miles below the canyon. One of its forks heads close to the Tolquor, the other runs north, and ends at the head of Kethijukla river, and is about 70 miles long, and has no less than four lakes of various sizes. Formerly Copper river was counted among the great salmon streams of the Skeena, until 15 years ago when a slide came down from the mountain with a tremendous rock in it, some 15 miles up from its mouth, which formed a dam that made it impossible for the salmon to get up.

A prospector, Mr. F. Allen, and others who have been there recently told me the dam is 20 feet high, that in front of it was a mass of dead fish, enough to pollute the air in the whole neighbourhood. On the lakes above are numerous salmon houses deserted long ago. Mr. Allen said that 500 or 600 dollars would blast the rock and clear away the dam.

In view of the great necessity of replenishing the salmon in the two above named rivers, you cannot too strongly recommend the expenditure for clearing out the obstructions.

SALMON USED AS AN ARTICLE OF COMMERCE.

Sale of dried salmon.—The Indians do not only catch and cure salmon for their own use, but herd it up every year for sale and barter, it is a sort of legal tender amongst them, 10 salmon for a dollar and so many for a blanket; they sell dried salmon to packers and miners, to all those that haul with dog sleighs, in every part of the upper country during winter, and to merchants, every store keeper that I asked told me that they handled more or less every year. The Babine post had an order from Stuarts lake for 9,000 dried salmon.

As I mentioned before there are about 3,000 Indians in Mr. Norings district, and we can reckon safely on three to a family which makes 1,000 families, and I have it from good authority that with dried and fresh salmon, it takes 1,000 fish to supply a family during one year, so that it takes a million of fish to supply the Indians in that district, besides what they sell, to say nothing about the multitude of dogs that number nearly as many, and are continually fed on dried salmon, and every fish almost without an exception is killed before it is spawned, and when we take into consideration that nearly every salmon stream in the country is barricaded and that this has gone on for years and years, is it not then a great wonder that there are any fish at all left?

I also beg to inform you that I was unable to engage a special fishery officer, for the Upper Skeena at the conditions you offered, and it would do not good, it would be like throwing so much money away as there are three active men wanted, as I have

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already stated, and they will have their hands full, and it should be done this winter when powder, provisions, &c., could be brought in with sleighs on the ice, it would be a great pity to allow those two rivers to be barren for another year.

On this trip six barricades have been destroyed, the Indians at fishing stations on the Skeena and in the upper country have had the fishery laws and regulations explained to them, one place has been exempted from fishing, yet it will not amount to much unless there are guardians appointed to enforce the regulations, and if this is not done the Indians will surely put in their barricades next year as usual. To show how the Indians feel about loosing their barricades I beg to call your attention to what occurred at Babine, I was asked to attend a meeting of Indians, when I was informed by one who claimed to own the barricades, that if he had been present when the barricades were destroyed they would not have been touched, that unless the government sends him \$600 before the fish run next summer, the barricades would surely be constructed again, though he should die for it, this he repeated several times, and I had to promise him that I would tell the government so.

This is the prevailing spirit amongst them, as they all wanted more or less in lieu of their barricades.

Appointment of Guardians.

I therefore beg to suggest that three guardians be appointed for the following places next season :—

One for Babine, one for Hazelton, and one for the Skeena below Hazelton, and they should be good active men, who could ride a horse, pole a canoe up stream, and move about quickly as they will each of them have over a hundred miles to travel, men that can fill such positions cannot be got cheaply.

The waters of the Skeena, Kispiax, Blackwater, Kitnangar and Naas rivers are all barricaded every year in a shameful manner, and the guardian of the upper Skeena should be retained longer in the season, and be sent round to such places as it is the best time of the year for travelling, and the Indians are all fishing, by so doing much good could be effected, and much evil prevented.

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A.—BRITISH COLUMBIA, DISTRICT No. 1, SALMON PACK, 1904—(48 LB. CASES).

Name of Cannery.	Owners or agents.	District.	Sockeyes.	Cohoos.	Springs.	Humpbacks.	Cannery Totals.	District Totals.
Albion	B. C. Packer's Association.	Fraser river ..	2,090				2,090	
Acme	"	"	1,624		104		1,728	
Brunswick	"	"	2,677	33	43		2,753	
Canadian Pacific	"	"	1,321		98		1,619	
Currie's	"	"	1,564		260		1,824	
Celtic	"	"	1,258		33		1,291	
Ewen's	"	"	6,881	1,570	2,228		10,679	
Imperial	"	"	5,540	16,945	1,400		23,885	
Pacific Coast	"	"	2,006		79		2,085	
Terra Nova	"	"	3,717	841			4,558	
Britannia—Phoenix	"	"	3,522				3,522	
B. A. & Canoe Pass	"	"	5,311	7,379	543		13,233	
Gulf of Georgia	"	"	3,842	821		1,066	5,729	
Scottish Canadian	"	"	3,007				3,007	
Beaver	"	"	8,748	5,360	1,130		15,248	
Richmond	"	"	1,412		170		1,582	
Deas Island	"	"	2,632	• 14	197		2,843	
Star	"	"	3,335		272		3,598	
Vancouver	"	"	2,992		98		3,090	
St. Mungo	"	"	3,185	6,488	2,178		11,851	
Eagle Harbour	"	"	1,560	2,575	428		4,563	
Great Northern	"	"	2,057	3,065	42		5,164	
Industrial	"	"	2,166	596	149		2,911	
Alert Bay	B. C. Packer's Association.	Vancouver island.	1,319	1,557		3,254	6,130	128,903
Clayoquot	Clayoquot Island, Canning Co. Ltd	"	2,905	1,050			3,955	
Alberni	Alberni Packing Co	"	3,430	37	1,336		4,803	14,888
Totals			80,342	48,321	10,818	4,320	143,791	143,791

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B.—BRITISH COLUMBIA SEALING REPORT, 1904.

Number.	Vessels.	License.	Master.	Tons.	CREWS.		Boats.	Canoes.	British Columbia Coast Catch.		Vicinity of Copper Island.		Behring Sea.		Totals.	Branded Skins.
					White.	Indian.			Males	Females	Males	Females	Males	Females		
		No.														
1	Allie I. Alger.....	10	G. Heater.....	75	7	22	2	11	109	147	234	339	260	291	807	3
2	Carlotia G. Cox.....	4	A. Nelson.....	76	21	.....	6	.....	188	123	.....	.....	.....	.....	884	.....
3	Carrie C. W.....	16	B. Gullin.....	92	7	24	3	11	23	13	.....	.....	330	290	656	.....
4	Casco.....	1	A. Monroe.....	63	21	.....	6	.....	180	187	52	49	223	256	946	.....
5	City of San Diego.....	5	J. Christian.....	46	18	.....	5	.....	134	280	80	355	.....	.....	799	.....
6	Diana.....	8	A. B. Whidden.....	50	18	.....	5	.....	20	18	69	55	.....	.....	162	.....
7	Director.....	20	D. G. Macaulay.....	87	8	25	2	19	15	9	.....	.....	362	280	666	.....
8	Dora Seward.....	15	R. E. McKel.....	94	7	20	2	9	18	37	.....	.....	386	354	745	.....
9	Eva Marie.....	12	V. Jacobson.....	77	11	.....	3	10	163	100	.....	.....	183	234	680	.....
10	Fawn.....	9	A. H. Oleson.....	59	8	25	2	12	27	73	.....	.....	107	346	553	3
11	Ida Etta.....	13	W. A. Leary.....	69	6	16	2	8	9	28	.....	.....	88	256	361	.....
12	Jessie.....	11	J. Haan.....	48	8	25	2	12	48	45	.....	.....	378	300	771	2
13	Libbie.....	17	W. Heater.....	93	8	24	2	12	65	35	.....	.....	155	303	558	.....
14	Oscar and Hattie.....	18	W. Delouchrey.....	81	8	25	2	12	15	10	.....	.....	194	133	352	.....
15	Petelo.....	7	J. G. Searle.....	86	8	18	2	9	77	85	64	17	58	89	390	1
16	Penelope.....	19	D. G. Macaulay.....	Wreck'd	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
17	Teresa.....	22	H. A. Lund.....	63	5	18	2	9	.....	.....	.....	.....	116	115	231	.....
18	Triumph.....	2	C. A. Burns.....	Missing	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
19	Umbrina.....	2	H. Blackstad.....	39	9	33	2	16	40	41	.....	.....	479	515	1,075	.....
20	Vera.....	3	A. St. Clair.....	60	21	.....	6	.....	163	162	215	261	22	25	848	2
21	Victoria.....	21	W. D. Byres.....	63	6	20	2	10	201	116	.....	.....	300	449	1,066	6
22	Zillah May.....	14	H. F. Brown.....	66	7	17	2	8	72	92	.....	.....	170	261	595	.....
	Indian catch in canoes, British Columbia coast															
	Totals.....			1,447	212	332	60	161	1,567	1,551	714	1,076	3,760	4,477	14,646	17

SUMMARY.

British Columbia coast catch.....	3,118
Indian.....	1,501
Copper island.....	1,790
Behring sea.....	8,237
Total.....	14,646

5-6 EDWARD VII., A. 1906

RECAPITULATION

Of the Combined Fraser River and Puget Sound Sockeyes Packs.

Year.	Puget Sound.	Fraser River.	Total Cases.	Total Canneries.	Total Lines of Machinery.
1876		9,847	9,847	3	3
1877		64,387	64,387	5	5
1878		100,000	100,000	8	8
1879		50,000	50,000	7	7
1880		25,000	25,000	7	7
1881		142,516	142,516	8	8
1882		175,000	175,000	11	11
1883		100,000	100,000	12	12
1884		25,000	25,000	6	6
1885		89,617	89,617	6	6
1886		36,000	36,000	11	11
1887		125,000	125,000	12	12
1888		40,000	40,000	12	12
1889		303,875	303,875	15	15
1890		225,000	225,000	17	17
1891	7,500	131,000	138,500	23	23
1892	4,000	59,000	63,000	22	22
1893	47,852	455,000	502,852	27	27
1894	41,781	360,000	401,781	30	30
1895	65,143	360,000	425,143	36	36
1896	52,146	325,000	377,146	43	43
1897	312,048	850,000	1,162,048	56	70
1898	252,000	216,000	468,000	62	77
1899	512,500	480,383	992,883	65	81
1900	229,800	166,045	395,845	63	87
1901	1,086,637	962,682	2,049,319	73	101
1902	372,301	293,477	665,778	63	93
1903	167,211	204,849	372,060	54	85
1904	107,943	72,688	180,631	36	59

SESSIONAL PAPER No. 22

BRITISH COLUMBIA—DISTRICT No. 1.

RETURN showing the Number and Value of Vessels and Boats, Nets, &c., also the Kinds of Fish caught in British Columbia, for the Year 1904.

Districts.	VESSELS AND BOATS.					FISHING MATERIALS.					KINDS OF FISH.					Number.	
	Vessels.		Boats.			Gill Nets.		Seines.		Lines.		Salmon, canned cases,	Salmon, salted, brls.	Salmon, dry-salted, lb.	Salmon, smoked, lb.		Salmon, fresh, lb.
	Number.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	Lines.						
1 Fraser River.....	35	140000	152	3000	180000	7826	333316	250437	1500	2250	9000	128908	1600	11984945	100000	1805000	1
2 Comox.....	8	4000	24	40	2400	180	3675	2800	900	1350	300	6130	140	.....	10000	30000	2
3 Nanaimo.....	57	12435	171	85	5100	170	4930	3700	3500	5250	2200	.....	270	1275798	80000	250000	3
4 Victoria.....	15	3375	45	27	1620	64	2600	1950	694	1050	1700	.....	290	1709075	20000	120000	4
5 West Coast.....	8	2500	24	60	3600	220	6600	4950	975	1400	250	8753	750	.....	18000	40000	5
Totals.....	123	162310	416	3212	192720	8400	351721	263837	7569	11300	13450	143791	3050	14969818	228000	2245000	
Values.....%												690196	30500	748490	22800	224500	

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RECAPITULATION

Of the Yield and Value of the Fisheries of District No. 1, British Columbia.

Kinds of Fish.	Quantity.	Price.		Value.	
		\$	cts.	\$	cts.
Salmon, canned.....(48-lb cases).	143,791	4	80	690,196	80
" salted..... Brls.	3,050	10	00	30,500	00
" dry salted..... Lb.	14,969,818	0	05	748,490	00
" smoked..... "	228,000	0	10	22,800	00
" fresh..... "	2,245,000	0	10	224,500	00
Sturgeon..... "	35,000	0	10	3,500	00
Halibut..... "	13,014,000	0	05	650,700	00
Herring, fresh and salted..... "	4,526,300	0	05	226,415	00
" smoked..... "	630,760	0	10	63,076	00
Oulachons, fresh..... "	285,000	0	05	14,250	00
" salted..... Brls.	300	10	00	3,000	00
" smoked..... Lb.	10,000	0	10	1,000	00
Smelts..... "	507,500	0	05	25,375	00
Trout..... "	470,000	0	10	47,000	00
Cod..... "	728,000	0	05	36,400	00
Shad..... "	18,500	0	05	925	00
Mixed fish..... "	627,000	0	05	31,350	00
Fish oil..... Galls.	152,000	0	35	53,200	00
" guano..... Tons.	607	30	00	18,210	00
" roe..... Lb.	36,125	0	05	1,806	30
Oysters.....(sacks 125 lb.)	4,000	3	25	13,000	00
Clams and mussels.....				7,000	00
Crabs and abelonies.....				15,000	00
Shrimps and prawns.....				5,000	00
Estimate of fish not included in above.....				160,000	00
Hair seals.....Skins.	3,900	0	75	2,925	00
Fur seals..... "	14,646	15	00	219,690	00
Sea otter..... "	7	250	00	1,750	00
Total ..				3,317,060	00

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Statement of the Capital Invested in District No. 1, British Columbia
Fisheries, 1904.

Description of Property.	Number.	Values.	Totals.
		\$ cts.	\$ cts.
<i>Fisheries—</i>			
Canneries, wharfs, &c.....	39	780,000 00	
Vessels.....	123	162,310 00	
Boats.....	3,212	192,720 00	
Gill and seine-nets (fathoms.....)	359,290	275,000 00	
Trawls and lines.....		13,450 00	
Scows.....	100	20,000 00	
Cold storage plants.....	6	75,000 00	
Oil factories.....	2	40,000 00	
Salteries.....	6	9,000 00	
Traps.....	4	22,000 00	
			1,589,480 00
<i>Fur sealing—</i>			
Vessels.....	38	380,000 00	
Boats and canoes.....		6,000 00	
Guns and equipments.....		18,000 00	404,000 00
Capital total.....			1,993,480 00

Employees in Fisheries.	Number.	Totals.
Fishermen and cannery employees.....	8,460	
On vessels.....	416	
		8,876
Sailors and hunters in fur sealing—		
White men.....	220	
Indians.....	400	
		620
Total.....		9,496

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NORTHERN BRITISH COLUMBIA FISHERIES—DISTRICT No. 2.

Northern British Columbia, Salmon Pack—Season 1904—(48 lb. Cases).

Name of Cannery.	Location.	Sockeye.	Cohoe.	Spring.	Hump- back.	Cannery Totals.	District Totals.
Balmoral	Skeena river	12,218	701	4,122	3,132	20,173	
Cunninghams	"	6,824	495	1,342	3,279	11,940	
British American }	"	20,003	1,205	2,384	7,248	30,840	
North Pacific	"						
Inverness	"	9,884	4,800	870		15,554	
Oceanic	"	14,717	889	2,630	3,305	21,541	
Claxton	"	10,225	185	3,535	3,979	17,924	
Carlisle	"	6,797	332	770	2,801	10,700	
Skeena River Com. Co.	"	5,367	360	1,456	3,630	10,813	
Cassiar Packing Co.	"	4,384	436	452	1,957	7,229	
Alexandra	"	1,415	505	1,794	621	4,335	
Ladysmith	"	1,570	407	1,266	577	3,820	
		93,404	10,315	20,621	30,529		154,869
Brunswick	Rivers inlet	25,914	104			26,018	
Wadhams	"	28,287		11		28,298	
Good Hope	"	18,573	109		61	18,743	
Rivers Inlet Cannery	"	21,088	145			21,233	
		93,862	358	11	61		94,292
Mill Bay ...	Naas river	6,194	667	2,105		8,966	
Naas Harbour	"	8,806	1,030	252	31	10,119	
Pacific Northern Pack Co. .	"	8,095	1,242	540	625	10,502	
		23,095	2,939	2,897	656		29,587
Lowe Inlet	Northern coast.	10,620	611			10,731	
Namu	"	3,400	2,482			5,882	
Kimsquit	"	7,096	773	249		8,118	
Bella Coola	"	3,740	4,379	755		8,894	
Hickey Cang Co.	"	7,680				7,680	
Quathiaski Cove	"	487	983	50	50	2,050	
		33,023	9,228	1,054	50		43,355

SUMMARY.

Skeena River	District	93,404	10,315	20,621	30,529	154,869
Rivers Inlet	"	93,862	358	11	61	94,292
Northern Coast	"	33,023	9,228	1,054	50	43,355
Naas River	"	23,095	2,939	2,897	656	29,587
Totals of each variety.		243,384	22,840	24,583	31,296	322,103
Grand total						322,103

NORTHERN BRITISH COLUMBIA FISHERIES—DISTRICT No. 2.

District.	VESSELS, BOATS, &c.										KINDS OF FISH.				
	Vessels.			Boats.		Gill Nets.		Snares.		Trawl Lines.		Salmon, canned cases.	Salmon, salted, brls.	Salmon, dry salted, lb.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.*	Fathoms.	Value.	Fathoms.	Value.				
1 Rivers inlet.....	4	160	18000	20	506	13340	1614	96400	30800	290	600	94292	150	.....	1
2 North coast.....	6	240	18000	30	173	7746	672	39200	27599	1850	3900	43355	150	100000	2
3 Skeena river.	14	560	40000	70	721	77486	2587	172354	92239	150	600	154869	1600	.....	3
4 Naas river.....	2	80	3000	10	158	13900	666	42400	21200	.....	.....	25587	1000	.....	4
5 Queen Charlotte islands	2	80	3000	10	16	1600	62	.....	.....	.....	.....	20800	300	50000	5
Totals	28	1120	82000	140	1574	114072	5601	350354	171838	2200	5100	322103	3200	150000	
Values.....	%	1546094	32000	7500	

* Including all cannery employees.

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NORTHERN BRITISH COLUMBIA FISHERIES—DISTRICT No. 2.

KINDS AND QUANTITIES OF FISH AND FISH PRODUCTS.													
District.	Salmon smoked, lb.	Salmon, fresh, lb.	Halibut, lb.	Herring, salted & fresh, lb.	Herring, smoked, lb.	Oulachon, fresh, lb.	Oulachon, salted, brl.	Oulachon, smoked, lb.	Trout, lb.	Mixed fish, lb.	Hair seal skins.	Fish oil, galls.	Canned clams, cases.
Number.	Number.												
1 Rivers inlet.....	4000	20000	4000	15000	.....	.....	.....	.....	4000	2500	400	10000	.....
2 North coast	50000	30000	3600	80000	.....	100000	300	4000	1000	20000	400	10000	300
3 Skeena river.....	70000	200000	80000	4000	1000	40000	500	1000	10000	30000	400	2000	1000
4 N'as river.....	80000	28000	60000	6000	1000	400000	3000	2000	3000	20000	600	2000	.....
5 Queen Charlotte islands.....	.....	25000	120000	40000	5000	.....	.....	.....	3000	40000	300	16750	.....
Totals	204000	303000	267000	145000	7000	540000	3800	7000	21000	112500	2100	40750	1300
Values	20400	30300	13350	7250	700	27000	38000	700	1050	5625	1575	14262	6240
Estimate of Fish not included in above.....													150,000 00
Grand Total.....													\$1,902,046 00

RECAPITULATION

OF Yield and Value of Fisheries in **British Columbia**, for the Year 1904.
District No. 2.

Kinds of Fish.	Quantity.	Price.	Value.
		\$ cts.	\$ cts.
Salmon, canned..... 48-lb. cases.	322,163	4 80	1,546,094 40
" salted..... Brls.	3,200	10 00	32,000 00
" dry salted..... Lb.	150,000	05	7,500 00
" smoked..... "	204,000	10	20,400 00
" fresh..... "	303,000	10	30,300 00
Halibut..... "	267,000	05	13,350 00
Herring, fresh and salted..... "	143,000	05	7,250 00
" smoked..... "	7,000	10	700 00
Oulachons, fresh..... "	540,000	05	27,000 00
" salted..... Brls.	3,800	10 00	38,000 00
" smoked..... Lb.	7,000	10	700 00
Trout..... "	21,000	05	1,050 00
Mixed fish..... "	112,500	05	5,625 00
Hair seals..... Skins.	2,100	75	1,575 00
Fish oil..... Galls.	40,750	35	14,262 50
Canned clams..... Cases.	1,300	4 80	6,240 00
Estimate of fish not included in above.....			150,000 00
Total.....			1,902,046 90

CAPITAL invested in Northern **British Columbia** Fisheries, 1904.

Description of Property.	Number.	Value.	Total.
		\$	\$
<i>Fisheries—</i>			
Canneries, wharfs, &c.....	30	525,000	
Vessels.....	28	82,000	
Boats.....	1,574	114,072	
Gill and seine-nets (fathoms).....	350,354	171,829	
Trawls and lines.....		1,035	
Scows.....	90	18,000	
Oil factories.....	2	10,000	
Salteries.....	3	20,000	
			941,936
<i>Employees in Fisheries—</i>			
Fishermen and cannery workers.....	5,600		
Employed in vessels.....	140		
Total.....	5,740		

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RECAPITULATION

Of the Yield and Value of the Fisheries of all **British Columbia** for the Year 1904.

Kinds of Fish.	Quantity.	Price.		Value.	
		\$	cts.	\$	cts.
Salmon, canned.....48-lb cases.	465,894	4	80	2,236,291	20
" salted.....Brls.	6,250	10	00	62,500	00
" fresh.....Lb.	2,548,000	0	10	254,800	00
" dry salted....."	15,119,818	0	05	755,990	90
" smoked....."	432,000	0	10	43,200	00
Sturgeon....."	35,000	0	10	3,500	00
Halibut....."	13,281,000	0	05	664,050	00
Herring, fresh and salted....."	4,673,000	0	05	233,665	00
" smoked....."	637,760	0	10	63,776	00
Oulachons, fresh....."	825,000	0	05	41,250	00
" salted.....Brls.	4,100	10	00	41,000	00
" smoked.....Lb.	17,000	0	10	1,700	00
Smelts....."	507,500	0	05	25,375	00
Trout....."	491,000			48,050	00
Cod....."	728,000	0	05	36,400	00
Shad....."	18,500	0	05	925	00
Mixed fish....."	739,500	0	05	36,975	00
Fish oil.....Galls.	192,750	0	35	67,462	50
" guano.....Tons.	607	30	00	18,210	00
Canned clams.....48-lb cases.	1,300	4	80	6,240	00
Fish roe.....Lb.	36,126	0	05	1,806	30
Clams and mussels.....				7,000	00
Oysters.....(125-lb. sacks).	4,000	3	25	13,000	00
Crabs and abelonies.....				15,000	00
Shrimps and prawns.....				5,000	00
Estimate of fish not included in above.....				310,000	00
Hair seals.....Skins.	6,000	0	75	4,500	00
Fur seals....."	14,646	15	00	219,690	00
Sea otter....."	7	250	00	1,750	00
Total for 1904.....				5,219,106	90
" 1903.....				4,748,365	60
Increase.....				470,741	30

5-6 EDWARD VII., A. 1906

Recapitulation of the capital invested in all British Columbia, 1904.

Description of Property.	Number.	Values.	Totals.
		\$ cts.	\$ cts.
<i>Fisheries—</i>			
Canneries, wharfs, &c.	69	1,395,000 00	
Vessels	151	214,310 00	
Boats	4,786	306,792 00	
Gill and seine nets (fathoms)	709,644	446,829 00	
Trawls and lines		14,485 00	
Scows	190	38,000 00	
Cold storage plants	6	75,000 00	
Oil factories	4	50,000 00	
Salteries	9	29,000 00	
Traps	4	22,000 00	2,531,416 00
<i>Fur sealing—</i>			
Vessels	38	380,000 00	
Boats and canoes		6,000 00	
Guns and equipment		18,000 00	404,000 00
Capital total			2,935,416 00

Employees in Fisheries.	Number.	Totals.
Fishermen and cannery employees	14,060	
Employed on vessels	556	14,616
Sailors and hunters in fur sealing—		
White men	220	
Indians	400	620
Total		15,236

APPENDIX No. II.

REPORT

ON

FISH-BREEDING OPERATIONS IN CANADA

1905

REPORT OF PROFESSOR EDWARD E. PRINCE, COMMISSIONER AND
GENERAL INSPECTOR OF FISHERIES FOR THE
DOMINION OF CANADA.

OTTAWA, December 30, 1905.

To the Honourable
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit my eleventh annual report upon the work of artificial fish-culture carried on by the Department of Marine and Fisheries. It is thirty-eight years since fish hatching operations began under the auspices of the Dominion Government, and the scheme for stocking and replenishing Canadian waters with valuable kinds of fish has developed with the progress of the years. Within a period of five or six years, however, these fish-breeding operations have very rapidly expanded. Indeed, it is apparent that such expansion recently has been out of all proportion to the slow progress of the preceding quarter of a century, if the following figures be examined. At Confederation there was practically only one fish hatchery at work in Canada, viz., the establishment conducted by the late Mr. Samuel Wilmot at Newcastle, on the north shore of Lake Ontario, but seven years later there were four hatcheries in operation, viz., Newcastle, Restigouche, Miramichi and Gaspé, and the total output of fry in 1874 was a little over half a million, whereas during the past year there were twenty-four hatcheries in operation, and the total quantity of young fish planted in the various selected waters of the Dominion amounts to nearly 628,000,000. The growth of the work may be understood from the following comparative figures:—

1874—	4 hatcheries producing..	510,000 fry.
1884—11	“ “ ..	53,143,000 “
1894—15	“ “ ..	254,919,000 “
1904—22	“ “ ..	473,258,000 “

At the close of this year there are in actual operation no less than twenty-eight fish-culture establishments, exclusive of the lobster and black bass breeding ponds in Cape Breton and Ontario, where a considerable quantity of young lobsters and of small-mouth black bass fry were hatched under conditions closely approaching those which obtain in nature. I make reference in a subsequent paragraph to this rearing-pond work, which is of high interest. But exclusive of that important and productive work, the hatcheries this year yielded a total output of young fish amounting to no less than 627,541,000. This grand total is made up of eight different species of valuable commercial fishes, viz., Atlantic salmon, 9,114,000; British Columbia salmon, chiefly sockeyes, 19,572,000; salmon trout, 3,790,000; pike-perch or pickerel, 26,000,000; lake whitefish 105,500,000; Pacific trout, 50,000; eastern brook trout, 514,000; and sea lobsters, 463,000,000. As compared with the gross output of fry from the Department's hatcheries last year (1904) viz., 473,250,000, the operations this year show an increased production of 154,291,000 fry, or an increase of nearly 30 per cent. These results are in many ways more favourable than might have been anticipated, even by the most sanguine, as the production of Pacific salmon fry is never so large in an 'off' year as in a big year such as the season now ending (1905). The hatcheries in British Columbia will this year be strained to their utmost capacity owing to the immense schools of salmon, which, as was expected, ascended the Fraser river; but other northern waters were also unusually well supplied with schools of fish. Rivers inlet, the Skeena river, and other localities in the north parts of the province, showed immense bodies of breeding fish scattered over the spawning grounds. Hence the full supply of eggs was obtained. Two very capacious hatcheries in British Columbia were completed this fall in good time to secure ample quantities of salmon eggs. At Rivers Inlet, and in Pemberton, on Lillooet lake, 75 or 100 miles directly northwest of Vancouver city, two fine establishments are now for the first time in operation, and it may be doubted whether for accommodation, favourable surroundings, and admirable location, any hatcheries upon this continent can approach them. Abundant supplies of ova can certainly be relied upon in the case of each of these new hatcheries, while the location and the plenitude and quality of the water, which supplies the hatching troughs, tanks, and rearing ponds, could not be surpassed.

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For facility of reference the detailed table below specifies the name and location of each hatchery, also the quantities of young fish and of eggs in an advanced condition supplied by each establishment respectively, and the species of fry or the kind of eggs so distributed during the season.

Number.	Name of Hatchery.	Number of Fry distributed.	Number of Eggs sent to other Hatcheries.	Species of fish.
1	Ottawa, Ont.	780,000		Salmon trout.
	"	245,000		Atlantic salmon.
	"	78,000		Speckled trout.
2	Newcastle, Ont.	1,480,000		Salmon trout.
3	Sandwich, Ont.	80,000,000		Whitefish.
	"	26,000,000		Pickarel.
4	Gaspé, P.Q.	1,100,000		Atlantic salmon.
5	Tadoussac, P.Q.	1,550,000		"
6	Lac Tremblant, P.Q.	570,000		Salmon trout.
7	St. Alexis, P.Q.	298,000	100,000	Speckled trout.
8	Magog, P.Q.	700,000		Salmon trout.
	"	58,000		Speckled trout.
	"	260,000		Grey trout.
	"	80,000		Atlantic salmon.
9	Bedford, N.S.	800,000		"
	"	80,000		Speckled trout.
10	Margaree, N.S.	799,500		Atlantic salmon.
11	*Windsor, N.S.			
12	Bay View, N.S.	155,000,000		Lobsters.
13	Canso, N.S.	8,000,000		"
14	Miramichi, N.B.	1,400,000		Atlantic salmon.
15	Restigouche, N.B.	2,833,000	150,000	"
16	Grand Falls, N.B.	807,000		"
17	Shemogue, N.B.	100,000,000		Lobsters.
18	Shippegan, N.B.	100,000,000		"
19	Charlottetown, P.E.I.	100,000,000		"
20	*Kelly's Pond, P.E.I.			
21	Selkirk, Man.	25,500,000		Whitefish.
22	Fraser River, B.C.	2,500,000	6,000,000	B.C. salmon.
	"	50,000		B.C. trout.
23	Granite Creek, B.C.	4,000,000		B.C. salmon.
24	Skeena River, B.C.	3,767,900		"
25	Harrison Lake, B.C.	6,505,000		"
26	Nimpkish, B.C.	2,800,000		"
27	*Peaberton, B.C.			
28	*Rivers Inlet, B.C.			
	Totals.	627,541,400	6,250,000	

* Commenced operations this fall.

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FISH—

STATEMENT showing the Places where and the Years in which the several Fish
Establishment annually since they

Number.	YEAR.	ONTARIO.			QUEBEC.		
		Newcastle.	Sandwich.	Ottawa.	Magog.	Tadoussac.	Gaspé.
		Fry.	Fry.	Fry.	Fry.	Fry.	Fry.
1 1868-73.....		1,070,000					
2 1874.....		350,000					
3 1875.....		650,000				60,000	110,000
4 1876.....		700,000	8,000,000			150,000	50,000
5 1877.....		1,300,000	8,000,000			1,180,000	1,051,000
6 1878.....		2,605,000	20,000,000			707,000	650,000
7 1879.....		2,602,700	12,000,000			1,250,000	1,597,000
8 1880.....		1,923,000	13,500,000			1,155,000	730,000
9 1881.....		3,300,000	16,000,000		200,000	334,000	500,000
10 1882.....		4,841,000	44,000,000		975,000	660,000	530,000
11 1883.....		6,053,000	72,000,000		250,000	995,000	520,000
12 1884.....		8,800,000	37,000,000		100,000	985,000	859,000
13 1885.....		5,709,000	68,000,000		300,000	720,000	290,000
14 1886.....		6,451,000	57,000,000		1,400,000	1,627,000	576,000
15 1887.....		5,130,000	56,500,000		675,000	900,000	630,000
16 1888.....		8,076,000	56,000,000		3,475,000	850,000	800,000
17 1889.....		5,846,500	21,000,000		2,800,000	1,600,000	450,000
18 1890.....		7,736,000	52,000,000	5,732,000	2,875,000	1,700,000	806,000
19 1891.....		7,807,500	75,000,000	7,043,000	3,050,000	1,300,000	1,000,000
20 1892.....		4,823,000	44,500,000	4,909,000	2,400,000	624,000	965,000
21 1893.....		9,835,000	68,000,000	6,208,000	3,600,000	2,060,000	910,000
22 1894.....		6,000,000	47,000,000	4,480,000	2,035,000	1,975,000	850,000
23 1895.....		6,000,000	73,000,000	3,210,000	3,350,000	2,060,000	675,000
24 1896.....		5,200,000	61,000,000	3,950,000	3,400,000	2,500,000	300,000
25 1897.....		4,200,000	72,000,000	4,100,000	4,500,000	3,272,000	1,100,000
26 1898.....		4,325,000	71,000,000	3,020,000	3,100,000	2,200,000	
27 1899.....		4,050,000	73,000,000	3,700,000	3,098,000	2,125,000	
28 1900.....		5,175,000	90,000,000	3,450,000	3,099,000	1,400,000	
29 1901.....		5,900,000	67,000,000	3,410,000	3,135,000	2,960,000	
30 1902.....		650,000	100,000,000	1,245,000	935,000	2,700,000	734,000
31 1903.....		2,500,000	90,000,000	1,201,000	885,000	1,625,000	830,000
32 1904.....		1,475,000	75,000,000	877,000	283,000	2,615,000	1,520,000
33 1905.....		1,480,000	106,000,000	1,103,000	1,098,000	1,550,000	1,100,000
Totals.....		142,555,000	438,000,000	57,639,000	51,378,000	45,839,000	20,133,000

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BREEDING.

Hatcheries have been erected ; also the number of fry distributed from each were built, including the year 1905.

QUEBEC— <i>Con.</i>		NEW BRUNSWICK.					Number.
St. Alexis des Monts.	Mont Tremblant.	Restigouche.	Miramichi.	St. John River.	Lobster Hatchery, Shemogue.	Lobster Hatchery, Shippegan.	
Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	
		100,000	60,000				1
		600,000	150,000				2
		300,000	60,000				3
		600,000	320,000				4
		1,015,000	665,000				5
		1,470,000	1,025,000				6
		1,500,000	805,000	170,600			7
		740,000	770,000	50,000			8
		1,400,000	640,000	588,000			9
		300,000	925,000	72,600			10
		940,000	795,000	811,000			11
		660,000	900,000	155,000			12
		1,380,000	945,000	2,181,000			13
		1,500,000	900,000	2,479,000			14
		1,720,000	1,290,000	4,142,000			15
		1,280,000	850,000	3,570,000			16
		2,396,000	1,022,000	3,492,000			17
		1,750,000	1,503,000	3,165,000			18
		1,240,000	1,310,000	2,378,000			19
		883,000	975,000	3,299,000			20
		1,080,000	1,010,000	4,096,000			21
		2,885,000	1,200,000	4,060,000			22
		1,250,000	1,430,000	4,068,000			23
		2,100,000	1,558,000	4,155,000			24
		1,135,000	1,557,000	3,290,000			25
		2,025,000	1,605,000	3,980,000			26
		1,125,000	1,620,000	3,957,000			27
		1,750,000	1,800,000	3,605,000			28
		2,310,000	1,700,000	998,000			29
		2,052,000	1,000,000	648,000	17,000,000		30
125,000		2,525,000	1,500,000	909,000	52,000,600	50,000,000	31
298,000	570,000	2,333,000	1,400,000	807,000	100,000,000	100,000,000	32
							33
423,000	570,000	44,494,000	34,290,000	61,126,200	169,000,000	150,000,000	

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FISH

STATEMENT showing the Places where and the Years in which the

Number.	YEAR.	NOVA SCOTIA.					P. E. ISLAND.
		Bedford.	Sydney.	Margaree.	Lobster Hatchery Bay View.	Canso.	Lobster Hatchery. Charlottetown.
		Fry.	Fry.	Fry.	Fry.	Fry.	Fry.
1 1868-73.							
2 1874.							
3 1875.							
4 1876.		385,000					
5 1877.		1,006,000					
6 1878.		1,400,000					
7 1879.		1,740,000					
8 1880.		730,000					500,000
9 1881.		680,000					375,000
10 1882.		850,000	315,000				1,000,000
11 1883.		800,000	659,000				1,210,000
12 1884.		1,009,000	853,000				1,000,000
13 1885.		670,000	772,000				1,100,000
14 1886.		950,000	1,179,000				400,000
15 1887.		4,230,000	1,415,000				500,000
16 1888.		4,390,000	1,559,000				Out-put of
17 1889.		3,850,000	2,034,000				Dunk R.
18 1890.		3,860,000	1,953,000				Hatche-
19 1891.		2,550,000	1,000,000		7,000,000		ry now
20 1892.		2,620,000	690,000		63,500,000		closed. *
21 1893.		3,180,000			153,600,000		
22 1894.		3,805,000	288,000		160,000,000		
23 1895.		3,815,000	195,000		168,200,000		
24 1896.		4,225,000	243,500		100,000,000		
25 1897.		5,450,000	496,000		90,000,000		
26 1898.		3,000,000			85,000,000		
27 1899.		4,025,000			100,000,000		
28 1900.		3,970,000			120,000,000		
29 1901.		3,980,000			110,000,000		
30 1902.		960,000		95,000	120,000,000		
31 1903.		710,000		600,000	164,000,000		
32 1904.		1,213,000		562,500	175,000,000		60,000,000
33 1905.		884,000		799,500	155,000,000	8,000,000	100,000,000
Totals		70,958,000	13,652,000	2,057,000	1,769,300,000	8,000,000	166,145,000

* The above were salmon fry.

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BREEDING.

several Fish Hatcheries have been erected, &c.—*Concluded.*

BRITISH COLUMBIA.					MANITOBA.	TOTALS.	Number.
Fraser River.	Harrison Lake.	Granite Creek, Sicamous.	Nimkish River.	L. Lakelse Skeena River.	Selkirk.		
Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	
						1,070,000	1
						510,000	2
						1,570,090	3
						9,655,000	4
						27,042,000	5
						13,451,000	6
						21,684,700	7
						21,013,000	8
						22,949,000	9
						55,859,000	10
						83,784,600	11
						53,143,000	12
1,800,000						81,067,000	13
2,625,000						76,724,000	14
4,414,000						79,273,000	15
5,807,000						88,109,000	16
4,419,000						47,700,000	17
6,640,000						90,213,000	18
3,603,800						115,772,300	19
6,000,000						135,959,500	20
5,764,000						258,314,000	21
7,800,000					14,500,000	254,919,000	22
6,390,000					19,000,000	294,040,000	23
10,393,000					4,500,000	202,459,500	24
5,928,000						198,859,000	25
5,820,000					9,000,000	192,477,000	26
4,742,000					20,000,000	222,350,000	27
6,200,000					32,000,000	265,996,000	28
						203,540,000	29
9,214,000		6,760,000			23,000,000	271,401,000	30
9,573,000		4,866,500	1,636,000	3,450,000	12,000,000	314,511,500	31
6,584,000		3,074,000	2,496,000	4,000,000	31,500,000	473,258,000	32
2,550,000	6,505,000	4,000,000	2,800,000	3,767,900	25,500,000	627,541,400	33
116,796,800	6,505,000	18,700,500	6,932,000	11,217,900	191,000,000	4,806,416,100	

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The lobster pounds operated by Mr. H. E. Baker, of Gabarus, Cape Breton, were again well supplied with impounded lobsters, carrying eggs, and after the close of the fishing season, these breeding lobsters were replaced in the open waters of the sea. According to the contract, which Mr. Baker entered into with the Dominion Government, a quantity of lobsters not less than 50,000, bearing ova, and generally known as 'seed lobsters,' were to be obtained, impounded, fed and looked after, and afterwards liberated in the natural breeding grounds. The terms of the contract provided that without expense to the department other than the rate per lobster (16½ cents each) he would impound lobsters collected from the fishermen, by means of his own tugs and otherwise, in an artificial or natural enclosure, convey them in crates or cars and supply them with food after capture. At the expiration of the lobster fishing season, and when the seed or egg mass is developed and the necessity exists, these lobsters should be taken from the ponds and deposited in the open sea in appropriate localities, under the direct supervision of an authorized departmental officer, whose duty would be to personally follow all the stages of the work and ensure the fulfilment of the conditions specified by the department. I need not repeat, in this report, the full details of the construction of the pond, and of the methods of handling, retaining, and liberating, the egg-bearing lobsters, as I furnished full particulars in my report in 1903 (Thirty-sixth Annual Report of the Department of Fisheries, 1904) on pages 224 and 225. Officer Henry C. V. Levatte, of Louisburg, again acted as superintending officer, and in view of certain interesting points stated in his report I present it in this place:—

LOUISBURG, C.B.,

NOVA SCOTIA, December 30, 1905.

To Professor E. E. PRINCE,
Commissioner of Fisheries,
Ottawa.

SIR,—*Re* the propagation of lobsters at Baker's pound, Fourchu, N.S.

We did not get as many seed lobsters this season as in 1904. But the death rate was a great deal less, viz.:—

During the month of May, 2 per cent.

During the month of June, 2½ per cent.

During the month of July, 3½ per cent.

The weather was not as hot this season as in 1904. And this to a large extent accounts for the smaller death rate.

The bottom of the pound was thoroughly cleaned in the spring, and a large quantity of gravel spread over it.

Lobsters were liberated in the waters in July and August in excellent condition. During July several thousand spawned in the pound.

The working of the pound, providing feed, &c., was the same as submitted to you in my reports for the years 1903 and 1904.

Mr. Baker undertook (during the latter part of July) an experiment with some of the fry, by having a raft built and anchored in Fourchu harbour. In the centre of the raft a square bag made of cotton with iron frame was sunk and a number of fry placed in the bag. In the bag was placed a wooden shaft with several spokes projecting from it, which was turned by a crank, and continually kept the water in motion. He had four men employed turning the crank, two by day and two by night. After working ten days, unfortunately, the cotton burst, and the young lobsters escaped with the exception of a very few. I am sending you, by first mail, a parcel containing three bottles showing fry and the stages of development for about ten days.

I can only repeat what I have already said in my previous reports that Mr. Baker's pound at Fourchu, N.S., is of incalculable benefit to the lobster fishery

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on the south and east coasts of Cape Breton, which the fishermen in a few years hence will fully appreciate.

I am, sir,

Your obedient servant,

HENRY C. V. LEVATTE,

Fishery Officer.

Early in July, indeed by July 6, no less than 28,879 seed lobsters were planted off the shores of Richmond county, west of Red Head, Cape Breton, and in the open waters adjacent. These had been impounded, at any rate a large proportion of them, for about two months, and Mr. Levatte reports a very small percentage of loss during confinement in the tidal enclosure. Between July 31 and August 7 further batches were planted amounting to 23,893, so that the total of large egg-carrying lobsters saved from destruction and replaced in the sea off the Cape Breton coast amounted to no fewer than 52,772. Such a grand total of seed lobsters, the hatching of whose eggs was ensured by this plan of saving them from destruction in the lobster canneries, certainly ensured the hatching under natural conditions of many hundreds of millions of young lobsters. In a report upon the natural history of this valuable crustacean in the department's fishery report, 1896 (Supplement No. 1 to the 29th; *Annual Report of the Department, Fisheries Branch*), I fully dealt with the reproductive capacity of the lobster and showed the variation which obtained in the number of eggs produced by the lobster at different ages, or rather, when it attains certain dimensions. I there pointed out that 'a 7 inch lobster will produce 5,000 eggs, whereas when one inch larger the number of eggs carried is just about double that quantity. A 10 inch lobster carries as a rule 18,000 or 20,000 eggs; but when 14 inches long the number of eggs is 40,000, and at 16 inches the number is estimated at no less than 80,000 eggs. Variations are not infrequent, and a 10-inch lobster may produce only 12,000 or 14,000 eggs; but on the other hand one specimen of this size is recorded which carried 21,000 eggs. These figures might appear large did we not know, by comparison with other marine creatures of economic importance, that the lobster is perhaps the least productive numerically of all. A herring deposits double the number of eggs produced on an average by the lobster; a mackerel four times as many, a cod four hundred times and a Canadian oyster four thousand times as many. No wonder that no lobster fishery in any country has been able for many years to withstand the tremendous annual drain implied by a large market. The lobster fishery of Canada it is estimated annually destroys between sixty and one hundred millions of lobsters, a considerable proportion of these being females about to spawn, or recently spawned. It is indeed astonishing that our lobster grounds have been able to hold out so long with this gigantic destruction going on year after year.

The fact that a lobster is bearing eggs implies, as an almost universal rule that it is of a good marketable size, indeed 9 inches or longer is considered by most experts to be the minimum length of an average 'seed lobster.' It is easy to see that the hatch of young lobsters secured by the liberation of over 50,000 adult lobsters in the inshore waters of Nova Scotia referred to above would be very large; indeed, I estimate that nearly eight hundred millions of young lobsters were hatched out under practically naturally normal conditions, from the 52,772 lobsters liberated from Mr. Baker's ponds during the past season. These young lobsters, which swim freely near the surface of the water were seen in great abundance in and about the enclosure. 'From the 11th of July the waters of the pound were peopled with lobster fry,' says Officer Levatte in his report dated August 7, 'Mr. Baker experimented with some of the fry, a special retaining apparatus working for one week. The canvas of the apparatus then gave way, but we succeeded in saving some fry, and will forward some to you for examination.' Mr. Baker early in August informed the department of the details of the steps he had taken to retain lobster fry. He reports: 'I beg to advise that I retained some of these for eight days in a large canvas bag submerged in the

sea. The water was kept in constant motion by rotating paddles revolved by four men night and day, which kept the young lobsters moving all the time. They grew rapidly and on the seventh day had developed to the third stage with the swimmerets under the tail. On the eighth day a gale of wind caused an accident to the apparatus, which was of an experimental character, but a number of the young lobster fry, about seven days old, were secured for examination in the Department at Ottawa.'

Mr. Baker forwarded specimens of the various stages, from the egg onward, for my examination, and in his letter to the department, dated September 1, he said: 'Another year I hope to be able to develop young lobsters to the fourth stage—the perfect lobster—and will endeavour to keep some for several months. . . . By keeping the water in continuous motion night and day by means of a revolving paddle, the young lobsters do not have the chance to destroy each other, but are supplied with food in the form of the soft part of clams on which they seem to thrive nicely.'

In view of the interest and importance of the facts connected with the early growth of the young lobster I here reproduce the summarized account which I published some years ago in the Lobster Commission Report, 1898, of which commission I was chairman.

The newly hatched larva exhibits a short shrimplike body and ringed tail stretched out almost horizontally. It is of glassy transparency, with gleaming emerald eyes, and possesses a huge pointed snout or rostrum, consisting of a central blade and a lateral spike on each side. Two pairs of very short horns protrude in front (antennæ and antennulæ) the second pair being forked or split into two. Four of the six tail-joints bear spines, two on each side, and one in the middle standing erect. Most young marine larvæ, having the pelagic habits of the lobster carry for some days a small bag of yolk; but all trace of the green yolk has disappeared by the time the young lobster hatches out. The yellow liver is plainly visible through the translucent shell. There are no swimmerets along the under surface of the tail; but minute buds indicate their future position. The jointed foot jaws and the five pairs of legs are paddle-like, and the creature shoots forward through the water with great rapidity. The triangular tail is provided with spines and is fringed with hairs. In length the larva is over $\frac{3}{4}$ of an inch (7.50 to 8.50 mm. long.) from the tip of the snout to the end of the tail.

(2.) During the second week after hatching five changes may be noted: (a) the snout becomes toothed and is less blade-like in character; (b) paired swimmerets grow out along the under side of the tail, the second to the fifth tail rings; (c) green colour appears along the back region. The length increases by nearly one-twelfth of an inch, and the larva is now about half an inch long (9.50 to 11 mm.)

(3.) During the third week the principal change is the development of the nipper-claws or chelæ. All the feet hitherto were adapted for swimming and the first pair (or nippers) differed little from the rest; but at this stage they become proportionately much larger and their inner margins exhibit serrations or tooth-like projections. The eye still shows a bright metallic lustre, and green spots distinctly appear in the thin shell mingled with a brown coloration. This stage appears to rarely last more than a week.

(4.) The fourth or fifth week witnesses further changes. In outline the small lobster shows a resemblance to the adult lobster greater than it has hitherto exhibited. It has, after moulting, increased in length, and measures more than half an inch (13 to 15 mm.) The erect spines down the back have gone, while a deeper colour, brown-green, extends over the shell, and the nipping claws are of a warm brown or reddish colour.

(5.) The young lobster, six weeks to two months old, still swims about actively near the surface. Though its prevailing reddish brown tint renders it less inconspicuous than in its younger stages when its glassy translucency is more marked, yet it is really a small insignificant object $\frac{3}{4}$ -inch to $\frac{3}{4}$ -inch long, and not readily distinguished from the small fishes, young cod, gurnard, sculpins, &c., which abound in the

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same surface waters. A young lobster at this stage is often mistaken for a larval gurnard (*Prionotus*) as both swim rapidly forward in a similar way, and the moving reddish claws of the lobster bear no little resemblance to the orange tinted pectoral wings, or fins, of the minute gurnard. The snout is narrower and therefore appears more prominent and pointed, while the feathery joint or exopodite of the swimming feet becomes much diminished. This last feature, with the loss of the glassy translucency, characteristic of previous stages, indicates that the young lobster is about to take to the bottom.

(6.) One or two weeks later when the lobster measures a fraction more in length (15 to 17 mm.) it changes its swimming pelagic habit and comes inshore. Its colour is darker than hitherto, though there is great variation in this respect. Dark green, pale bluish or greenish brown are most frequent. As Professor Herrick points out, there appears at this time on the head-shield two white spots, really points of internal attachment for tendons, very apparent a little behind the eyes. The projecting edge (pleuron) on each side of the first tail ring is also white. The snout or rostrum measures about one-quarter of the length of the head-shield (or cephalothorax).

(7.) During the third month of larval life, which Herrick divides into two stages, the changes are mainly internal and only the trained specialist is able to notice the slight external modifications which take place. The most important point is the assumption of the external characters of sex. The males and females, in early larval stages, cannot be distinguished. Up to the sixth or eighth week the first pair of swimmerets beneath the tail are mere rounded tubercles, and up to the stage now described the oviducal openings on the second pair of walking limbs are not apparent in the female. They now appear distinctly, and from this stage onward the changes which take place are mainly connected with growth and increase in size. The young lobster thus passes through changes in its early life of a very striking character. In outline it changes less no doubt than the shore crab, but in habits, mode of progression, food, &c., the changes are momentous. From a free swimming, almost transparent mite in the open sea, it becomes transformed into a heavy opaque bottom-living scavenger. As the length of $\frac{1}{2}$ of an inch is approached (19.5 or 20 mm.) the eyes begin to grow more rapidly and during the stages immediately subsequent are unduly prominent. This in fact is true of young marine larvæ generally. Of course young lobsters, like other developing aquatic organisms vary in rate of growth and features of colour, &c., but the foregoing brief sketch may be said to represent the average larval life of the lobster. As in its mature adult stages so in its early days its food is varied. Minute marine plants, algae, diatoms, as well as minute crustaceans, copepods or water fleas, &c., chiefly constitute its food. Cannibalism is frequent, and the method adopted of attacking each other is very striking, as the young lobster, barely a few weeks old, invariably selects the most vulnerable point, viz., the opening behind the head-shield. The stronger larva springs upon the back of the weaker and savagely bites him at the point named. Larval lobsters feed chiefly at night, hence their illimitable myriads are not readily noted by fishermen or sailors; but on bright sunny days they rise to the surface of the sea. Light has a fascination which is common to many creatures in the water.

Mr. Baker, when the question of an experimental lobster pound was under discussion submitted to the hon. the late Minister, his detailed views upon the merits of the system of retaining 'berried' females, and replanting them in the sea—a scheme which the department favoured as a supplement rather than an alternative to the method of incubating lobster eggs in the glass jars of a hatchery, and I here give the substance of the memorandum submitted at the time:—

'A few years ago the coastal waters of the island of Cape Breton were teeming with lobsters. So numerous indeed were these crustaceans that 40,000 to 50,000 have been caught in traps or cages in three months by one man, and as many as 2,000 have been caught in a single day in one hundred traps. During heavy gales thousands have been known to be washed ashore along the coast, and I have myself seen hun-

dreds of yards of lobster ridges on the shores after a storm. Look where you would over the bottom during calm weather, you would see lobsters crawling over it. To-day it is considered an excellent catch for 150 traps to capture 10,000 in a season. This, added to the history of lobsters in other countries, such as Maine, Massachusetts and Norway, shows that unless something is done to conserve the supply this valuable fish food will disappear from our waters as it has in other places, and the question arises, what is the most practical course to adopt to save it?

At least two per cent of the lobsters in Cape Breton are seed or spawn lobsters, every one of which carries from 10,000 to 20,000 eggs, so that out of 7,000,000 annually caught in Cape Breton, about 140,000 are seed lobsters, with over 1,400,000,000 eggs attached. These seed lobsters are destroyed by the fishermen, and their eggs are destroyed with them. They crawl in shore during the summer season to get the necessary temperature of water to develop their eggs. They are caught in the traps, their eggs are washed off, and the lobsters are sent to the cannery and boiled. Now, if these 1,400,000,000 eggs could be saved and only two per cent of them matured, the supply would be increased by 28,000,000 lobsters annually or by four times the quantity taken from the canneries. It is an indisputable fact that the myriads of lobsters which thronged our coast only a few years ago were produced by the natural process of hatching, and that the destruction of so many eggs is causing the tremendous falling off in the supply. It is also an indisputable fact that lobsters can be kept in perfect condition in large pounds so arranged as to prevent their escape, but at the same time give them conditions in every way suitable to their natures. For the sum of \$6,500, 40,000 lobsters carrying 400,000,000 eggs could be bought from the fishermen, placed in a suitable pound, kept there and fed there during the time the fishing operations are going on, and then liberated along the coast in August, when the fishing season is over and permitted to hatch their eggs in a natural way. If only two per cent of these eggs matured, 8,000,000 lobsters would be added to the supply annually or about 15 per cent more than are taken from it.

Steps have been taken by the federal government to erect hatcheries in various sections of the provinces of Nova Scotia, New Brunswick and Prince Edward Island, but nothing has been done to conserve the supply in Cape Breton.

The lobster is not migratory and seldom wanders far from its native haunts; 40,000 seed lobsters planted in the waters of Cape Breton to hatch their eggs by a natural process would in a very few seasons enable the fishermen to double their present catch, and the packers to double their present pack, so that the proposed tax on the canneries would be returned to the packers in increased profits. The fishermen would reap the benefit of good prices for their seed lobsters, as well as the benefit from the increase in the quantity of their catch. The cost per case for packing in fixed expense to the packers, would be reduced by one half, as the result of doubling their present pack, and the waters of our coasts would be restocked each season by a larger quantity than is taken from them. We know that when the seed was hatched by natural process the waters teemed with lobsters, and that when this process was interrupted by the destruction of the seed, the supply began to fall off, until to-day it is everywhere recognized that it is absolutely necessary to do something to prevent its annihilation. Is it not reasonable to suppose that the saving of the seed lobsters will accomplish the desired result?

Years ago hatcheries for artificial propagation were adopted by the Americans, and artificial hatching has also been tried on the Newfoundland coast, but there is nothing to show that the results obtained have been successful. Now the State of Maine proposes to adopt a method of natural hatching, similar to that asked for in Cape Breton, as will be seen by the following bill recently introduced in the legislature of that state:—

‘Be it enacted by the Senate and House of Representatives in legislature assembled as follows:

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'Section 1. The commissioner of sea and shore fisheries is hereby authorized and empowered to purchase at a rate not exceeding 25 per cent above the market price lobsters with eggs attached caught along the coast of Maine. Whoever catches any such lobsters with eggs attached shall safely store the same in lobster cars made for that purpose and shall keep them separate from other lobsters until such time as the said commissioner or some person or persons designated by him can gather and pay for them. Said commissioner or his agent shall liberate them in the vicinity of the location where they are caught, or as many as were taken from that location, but they shall be deposited at least three miles seaward from the headlands; or he may at his discretion sell any portion or all of them to the officer in charge of the United States fish hatchery for artificial propagation, the proceeds to be applied to the appropriation made for the purchase.

'Section 2. A sum sufficient to provide for the enforcement of this Act shall be taken from the appropriation for the sea and shore fisheries, to be used at the discretion of the commissioner of sea and shore fisheries.'

It is but reasonable and right that this experiment be made on the Cape Breton coast, where as before stated nothing has been yet done to conserve the supply, and I would respectfully suggest that it should also be adopted on the south shore of Nova Scotia, so that the results may be ascertained in a few years by comparison with other districts where the artificial method for hatching has been tried. If in three of four years the results show that the supply has increased in the sections using the natural method for hatching, while no corresponding increase is observed in the other districts, we will know that the future of our lobster industry depends on the saving of the eggs to be hatched naturally.

Canada to-day controls the lobster supply of the world. The waters of the New England States, Newfoundland and Norway are almost depleted of this crustacean. A few thousand dollars expended by the government of Canada in the way suggested will, to my mind, save the lobster fishery through the simple method of saving the eggs from which the lobsters are produced and allowing these eggs to be hatched by the mother lobsters in a natural way.'

In spite of the increase in the number of Dominion government hatcheries, and the vastly extended operations carried on therein, considerable areas remain, in various parts of the Dominion, which are still somewhat beyond the reach of the full benefit of the existing establishments. Nor do the somewhat limited efforts of certain provincial governments in this direction, as for example the hatching of trout in New Brunswick, of Fraser river salmon in British Columbia, and of black bass in Ontario, meet the deficiency. The waters which most urgently call for the aid of artificial fish breeding are indeed the lakes and rivers of more remote regions such as New Quebec, New Ontario, Northwest Manitoba, and the new provinces of Alberta and Saskatchewan, as well as certain rivers which have declined or are in danger of depletion on Vancouver Island, British Columbia. The hasty and ill-considered erection of new hatcheries is not desirable, and the greatest ultimate benefits will be most certainly secured by deliberate and carefully considered schemes, in which all the needs and circumstances of the waters, and the special facilities afforded by the locations suggested have been given due weight.

No doubt public demands are often urgent, but the public interest, and the benefiting of the fisheries are the prime objects to be aimed at, hence even urgent demands may not always be entitled to immediate acquiescence, and in the construction of its hatcheries the Dominion government has in practically all cases, had in view the benefit of the fisheries, rather than mere compliance with local requests, however strongly pressed.

Several proposals for new hatcheries have been favoured, and steps with a view to their construction will be authorized in the near future.

In addition to the hatching of fish in the usual fish-breeding buildings, and the cultivation of fish in pounds and enclosures, such as the bass ponds at Belleville, and the

lobster pounds at Gabarus, the work of fish culture has included the transplantation of fish from one part of the Dominion to another more or less remote. My scheme for introducing lobsters and Atlantic oysters into Pacific waters was favoured ten years ago, when the first shipment of both species was successfully sent from Halifax to Vancouver. Some black bass were included and were planted near Vancouver, but a supply of hardy cat-fish and tom-cod for certain partly saline waters near Edmonton could not be sent owing to some temporary difficulties which arose. In 1901 a second shipment of eastern fish (*viz.*, young and adult black bass) was sent to the west. A quota was put off at Crane lake in the midst of the prairie, a second lot was despatched from Banff to Devil's lake and other waters in the Rocky Mountains National Park, a third lot were planted in Christina lake in the Arrow lake district, while the main portion of the shipment reached Victoria, B.C., early in October, and were planted in lakes on Vancouver island, near that city. This year a further shipment was arranged by me, and on May 10, a special car left Halifax conveying about 1,000 lobsters and about 30 barrels of oysters in charge of Mr. Ernest Kemp. On arrival at Vancouver Inspector Sword and Inspector Taylor were waiting to assist in the immediate planting of the lobsters and oysters, most of which arrived in a satisfactory condition. Some of the lobsters were, of course, weakened by the long journey, but on being placed in the cold sea water they recovered, and evidence is in the department's hands that this second effort to introduce the valuable Atlantic lobster into the inshore waters of British Columbia, has met with marked success. There is a large field open for this experimental introduction of new and valuable species of fish into waters where such species do not naturally exist. The success of the United States' fish commission scheme for introducing shad and striped bass into the Pacific encourages the hope that this transplantation work carried on by the Dominion Government, if it be continued sufficiently to insure the thorough establishment of lobsters and other valuable eastern species in our western British Columbia waters, will be of vast and lasting benefit to our Pacific fishing industries.

At the end of March a shipment of Atlantic salmon eggs was made from New Brunswick to the Fraser river hatchery. They travelled satisfactorily, and Inspector Sword reports upon the planting of the fry.

There are several food-fishes, of the highest value from a market point of view, which offer a promising prospect of success, if a scheme be completed for transplanting them from their native waters to new waters in Canada, to which they are not indigenous, and in which they do not at present exist.

An immense benefit to the country as a whole will be secured in perpetuity if the Dominion hatchery work be continued efficiently in proportion to the growth and development of our great natural resources. The enforcement of close seasons and the rigid protection of the spawning fish and natural breeding grounds are of paramount importance, but, as an aid to the natural replenishment of the productive waters of our land, the efficient and extensive efforts made each season in nearly thirty Dominion fish hatcheries is a vital factor. Natural and artificial recuperation have always gone hand in hand in Canada, and this combination cannot fail to yield the most ample and unfailing results. Unaided artificial fish culture is doomed to result in disappointment, but the Canadian policy, in this matter, insures success. The value of fish breeding is practically unquestioned at this time, and it is still true as my predecessor the late Mr. W. F. Whitcher, commissioner of fisheries for Canada, said over twenty years ago:—

'The great advantages to be derived from supplementing by artificial means the natural facilities of our waters for reproducing all kinds of fish are so well established by experience, that it is scarcely necessary to enlarge on them. Even in their natural state our rivers have a limit of productiveness, but owing to climatic causes and other accidents this is seldom reached; and where artificial obstructions and pollutions occur, the streams are more or less reduced, or altogether deprived of their capacity. The area of reproduction is thus greatly contracted. When to these causes

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of deterioration are added increased appliances for capturing fish and increased numbers engaged in fishing, it becomes imperative to substitute some efficient means of providing for a yearly growing demand. We find ourselves now in a position to do this by enlarging the present fish-breeding establishments and adding to their number. With adequate accommodation every description of fresh water fish may be reproduced, and particularly those kinds which are best adapted for commerce and most available for domestic food. The chief difficulty met is a want of skilled labour. Encouragement should be given to persons who are willing to learn the process of fish-hatching and rearing, and special efforts made to instruct our fishery officers in all the methods to be employed.'

I have the honour to be,

Your obedient servant,

EDWARD E. PRINCE,

Commissioner of Fisheries and General Inspector of Fisheries for Canada.

ANNEX A.

OTTAWA, December 31, 1905.

To Professor E. E. PRINCE,
Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I have much pleasure in submitting my annual report, as superintendent of fish culture, on the operations conducted at the different fish breeding establishments throughout the Dominion.

The fisheries form one of the most valuable of this country's assets and it is incumbent upon the department having control of this national food supply not only to have and enforce adequate regulations for its protection, but in addition thereto, to assist nature by extending its fish breeding operations when and where the facilities necessary for the work are available. With this end in view the Hon. Mr. Prefontaine, with his desire for the protection and extension of all services entailing the general welfare of the country, added several very large fish breeding establishments to the number already in operation. This was notably the case in British Columbia, where by his direction three large hatcheries have been built. One of these, the Harrison Lake Hatchery, is the most modern fish-breeding establishment to be found on this continent and stands as a monument to the confidence held by the Hon. the late Minister of Marine and Fisheries in the good results to be obtained from judicious fish breeding.

Before entering into the details of the past season's work it appears fitting for me, as I come in personal contact with the outside officers of the fish breeding service, to refer to the general feeling of genuine regret entertained by each and every officer of the fish breeding service at the sudden demise of the Hon. Mr. Prefontaine.

It is felt that each officer has lost a good friend and the service a guiding hand that would eventually have demonstrated that the fullest development of this service would preserve the fisheries and consequently be of great and lasting benefit to the country.

Reference has already been made in this report to the extension of this service in localities where the necessary facilities exist. The most important questions to be considered when locating a salmon hatchery are the water supply and the location of the waters that require stocking.

The parent fish (Atlantic salmon) are now purchased from the commercial fishermen and retained in large enclosures until the fish have ripened and are ready for stripping, when the eggs can be taken and shipped to almost any point in the Dominion; but the shipping of young delicate fry long distances by rail and over rough roads is another question, as the quicker the young fish reach the waters in which they are to be deposited the better the results obtained.

Another vital question connected with this growing service is the procuring of competent officers to carry on the work, which differs from all other services in so much as little or nothing is known of its nature outside the government hatcheries. This difficulty might be overcome by employing young men of fair education under our experienced men where they would obtain a thorough knowledge of the work and so become fitted to fill such vacancies as may occur from time to time or take charge of any new hatcheries that may be erected.

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Distribution of Fry.

This question is of vital importance and worthy of serious consideration as to whether the present system is the best that could be adopted. Under existing conditions applications for fry are made to the department and it is customary to fill these applications where the waters to be stocked appear favourable to fish life. In some cases the fry reach their destination after a whole day's journey by rail and wagon when it is found that the waters are not as suitable for the species of fish applied for as could be desired, but no course is left open but to liberate the fry which perhaps do not thrive as well as some of the other species hatched in the government hatcheries would under the conditions there obtaining.

Again, owing to the very large number of applications received, it is possible to plant only a very small quantity in any one particular place, and that at a heavy expense.

I would therefore suggest that, in order that the best possible results might be attained, the department largely do away with the system of stocking indiscriminately on applications, and as circumstances permit, inaugurate the system of stocking by localities, taking for each season a section of the country where suitable waters are to be found and placing therein the whole season's output from the hatchery located nearest to the section to be stocked, such section to be inspected during the summer previous to the re-stocking. For instance, the whole output from the Newcastle hatchery could this season be planted in the Georgian bay, which would meet the complaint that whilst for years all the eggs required for this establishment have been taken from these waters only a very small percentage of the fry hatched have been returned to this section. It appears to me that a permanent system devised on these lines would not only greatly benefit these heavily fished waters, but would be carried out at a largely reduced expenditure on the present system of planting comparatively small quantities of fry in waters located in various parts of the province.

Several new hatcheries have been constructed throughout the Dominion which will be referred to under the heading of the province in which they have been located.

ONTARIO.

Newcastle Hatchery.

This establishment, located at Newcastle, Ontario, was the first institution of its kind erected in Canada. It was built under the supervision of the late superintendent of fish culture, Mr. Samuel Wilmot. It is now in charge of Mr. William Armstrong, and successful operations have been conducted for many years. The operations are altogether confined to the hatching of salmon trout. The parent fish are captured during the months of October and November by means of pound-nets operated in Colpo's bay, Georgian bay. The eggs are conveyed to Newcastle and the fry hatched therefrom are distributed in the spring. The waters stocked last year are given by Mr. Armstrong in his report of the season's work.

Ottawa Hatchery.

This establishment, under the charge of Mr. John Walker, is more in the nature of an experimenting station and an object lesson for the public.

Last season the following species were successfully hatched and distributed in various parts of the Dominion:—

Atlantic salmon, ouananiche, salmon trout, gray trout, and speckled trout.

Some of the Atlantic salmon eggs were successfully conveyed to British Columbia where they were eventually liberated. A number of the different species were successfully reared in the aquaria connected with the hatchery, where they are still retained as evidence of the good results to be obtained from fish culture.

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Sandwich Hatchery.

This establishment is located at Sandwich on the Detroit river, and the operations are confined to the handling of whitefish and pickerel.

Mr. William Parker is the officer-in-charge, and the experience of years employed at this work has made him a valuable officer.

The filling of this hatchery, with its capacity of one hundred million eggs, is an arduous undertaking, especially as the work must be performed in the late fall of the year. For the past few years it has been difficult to secure a sufficient number of eggs to fill all the jars. Many reasons are given for this. The fish do not enter the Detroit river in as large numbers as they did a few years ago. This is said to be owing to the sewage which empties into the river and to the heavy blasting done in the channel in the interests of navigation. It may possibly be necessary for the department to procure its whitefish eggs from some other source than the Detroit river, where there is no close season for whitefish. The inserting of a clause in the provincial licenses, authorizing the hatchery officers to handle the commercially caught fish for the purpose of procuring eggs, would be in the interests of the fishermen and add to the results to be obtained from the hatchery.

Considerable success has been met with in the hatching of pickerel, but the operations have been conducted on a limited scale. It is important that this work should be extended, and in this connection a small hatchery would be of great service. The cost of construction would be limited and the maintenance would be small as it would only be necessary to carry on operations for a short period during the spring.

Bass Ponds, Bay of Quinte.

The applications for the small-mouthed black bass far exceed the quantity of fry the department is able to handle in the ponds now in operation on the Bay of Quinte. The small bass are distributed during the months of October and November, at which time they have grown to a length of about three inches. The results from this pond have been very satisfactory, but an additional one further east would enable the department to stock waters that are suitable for black bass, but on account of the distance cannot be stocked from the present pond.

QUEBEC.

Gaspé Hatchery.

This hatchery is under the charge of Mr. Robert Lindsay of Gaspé Basin. The eggs of the Atlantic salmon, the only species handled at his hatchery, are procured from the departmental retaining-pond at Carleton, St. John Harbour, N.B. The building is one of the finest of its kind in eastern Canada, and the fine salmon rivers on this part of the Bay Chaleur should be greatly benefited by the large numbers of young fish distributed each season from this establishment.

Tadoussac Hatchery.

This hatchery, in charge of Mr. L. N. Catellier of Tadoussac, is located at the mouth of the Saguenay river.

The parent fish are captured by the employees of the hatchery and placed in the retaining-pond until the fall when they are stripped and then released to make their way to sea.

Magog Hatchery.

This hatchery is located on the Magog river, an outlet of Lake Memphremagog, and is under the charge of Mr. A. L. Deseve.

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For the past two seasons this hatchery has been partially filled with gray trout eggs taken from fish caught in Lake Memphremagog, the balance of the hatching space being occupied by Atlantic salmon eggs from the St. John river and by salmon trout eggs from Georgian bay.

The lakes in the eastern townships are now showing satisfactory results from the planting of fry from this hatchery, notably Lake Memphremagog, Massawippi lake, Lake Megantic and Lake Fortune, in all of which salmon trout and whitefish now abound and in which none of these fish were found previous to the establishment of this hatchery.

St. Alexis Hatchery.

This hatchery is entirely devoted to the hatching of speckled and Marstoni trout, as mentioned in last year's report.

It will be noticed from the report of the officer-in-charge, Mr. Joseph Elliott, that notwithstanding the difficulties of securing eggs the past season was a successful one. It is only fair to state that a considerable quantity of trout eggs have been used for the purpose of stocking waters located long distances from the hatchery at St. Alexis des Monts.

Lake Lester Rearing Ponds.

Reference was made in last year's report to the experiment of rearing fish until they were six months' old before liberating them. This experiment has proved a success, and some two hundred and fifty thousand fry of various species were held over in the departmental ponds at Lake Lester and liberated during the months of September and October. These fish had attained a length of from three to four inches and were liberated in a very healthy and thriving condition.

This is a feature of fish culture well worthy of development at such hatcheries as offer the necessary facilities for the construction of ponds and have the necessary supply of pure cold water.

NOVA SCOTIA.

Bedford Hatchery.

This hatchery, in charge of Mr. Alfred Ogden, is engaged in the propagation of Atlantic salmon, the eggs being obtained from the salmon retaining-pond at St. John, N.B.

It is reported that salmon are frequenting Bedford basin in increased numbers each year and this increase is attributed to the operations of the above named hatchery.

For the past few seasons a small quantity of speckled trout eggs have been handled but the operations in this direction have been limited in order that as much space as possible might be allotted to the hatching of the Atlantic salmon.

Margaree Hatchery.

This establishment is under the charge of Mr. A. G. Carmichael and the operations are confined exclusively to the hatching of Atlantic salmon. As in the case of the other Nova Scotia hatcheries the eggs are procured from the salmon retaining-pond at St. John, N.B. The trip to the Margaree hatchery is perhaps a difficult one to make with green eggs, but with proper packing and careful handling en route the loss of eggs should be small. It is reported that the salmon are becoming more plentiful in the Margaree river, and as the fish caught are smaller and do not closely resemble the usual run of the Margaree salmon, this increase is attributed by the anglers and others interested in the fisheries to the good work being done by this hatchery.

Windsor Hatchery.

A new hatchery has been completed at Windsor, where it is intended to hatch Atlantic salmon and shad.

The building is seventy-five feet long by forty feet wide and is located on a small stream about three miles in a southerly direction from the town of Windsor. The site is a good one, affording all the facilities required for the successful operation of a hatchery.

The building now contains its quota of salmon eggs, which were procured from parent fish captured in the Miramichi river. From present indications good results may be expected from this season's operations.

Bay View Hatchery.

The lobster hatchery located at Bay View, Pictou county, has for some years past been doing excellent work. During the past season some one hundred and fifty-five millions of young lobsters were liberated from this hatchery.

Canso Hatchery.

During the past season a new lobster hatchery was constructed at Canso, N.S. It was in operation for only a short period, but during that time some eight millions of young lobsters were hatched and liberated.

NEW BRUNSWICK.

Restigouche Hatchery.

This hatchery is situated at Flatlands on the Restigouche river, and the operations are confined mainly to the propagation of the Atlantic salmon. Mr. Alex. Mowat, the officer-in-charge, gives a full and detailed account of the season's operations and refers to the splendid results obtained from this hatchery.

The question of a salt water retaining-pond for this hatchery and the purchase of the parent fish from the fishermen, has on several occasions been laid before the department, and it is hoped that before another season this matter will have been favourably decided.

Miramichi Hatchery.

This establishment is under the superintendence of Mr. Isaac Sheasgreen, and is devoted entirely to the propagation of Atlantic salmon. In past years the eggs for this hatchery have been secured from fish captured after they had reached the upper waters of the river; but this season it was considered advisable to purchase the parent salmon from the fishermen. This move proved a success and it is recommended that wherever possible this plan should be adopted.

The details of the past season's operations at this hatchery are explained very fully in the report from the officer-in-charge.

St. John River Hatchery.

This establishment has for many years been under the supervision of Mr. Charles McCluskey of Grand Falls, and the operations are confined to the hatching of Atlantic salmon. The eggs are procured from the retaining-pond at St. John.

It is necessary that this building should be thoroughly repaired during the coming summer, as nothing has been done in this direction for a number of years. With this end in view an inspection will be made and the necessary repairs arranged for.

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Carleton Pond.

For several years the purchase of salmon from the fishermen and the retaining of them until they are ready to spawn in a pond constructed in the harbour of St. John, has been the means by which several hatcheries in the lower provinces have been filled with eggs. This system of purchasing salmon from the commercial catch is a good one, and should be adopted wherever it is possible to do so.

The present pond, owing to the new system of drainage installed in St. John West, which drains the sewage directly into the pond, has been rendered useless as a retaining enclosure for salmon. A new pond in a more suitable locality is now a necessity and it is expected that before another season's work is commenced that a suitable enclosure will be available. One centrally located pond supplying eggs to several hatcheries is much more satisfactory and can be operated at a much smaller expense than retaining-ponds at each of the hatcheries, which would only supply eggs to the hatchery to which it is attached.

PRINCE EDWARD ISLAND.

Kelly's Pond Hatchery.

This hatchery, located at Kelly's Pond, Southport, Charlottetown Harbour, for the propagation of Atlantic salmon and speckled trout, is in charge of Mr. A. W. Holroyd. It has a capacity for one million eggs and at the present time contains a large number of salmon eggs.

Charlottetown Hatchery.

This hatchery, also in charge of Mr. A. W. Holroyd, is devoted to the propagation of lobsters and is located at Blockhouse Point, Charlottetown Harbour.

The past season's operations were successful, some one hundred millions of young lobsters having been distributed along the coast.

MANITOBA.

Selkirk Hatchery.

This establishment is situated at Selkirk on the Red river, and last season's operations, under the supervision of Mr. W. S. Young, Inspector of Fisheries for Manitoba, yielded over twenty-five millions of whitefish which were distributed in a healthy condition.

Berens River Hatchery.

The necessity for additional fish hatcheries on Lake Winnipeg has been laid before the department on different occasions during the past few years, and it was eventually decided to erect a new building at the north end of the lake. Berens river was selected as a point offering all the facilities required for the successful operation of a whitefish hatchery. It was considered advisable to have this building in readiness to carry on operations this fall and arrangements were made accordingly, and the hatchery completed in due course. Considerable difficulty was experienced in the construction, as the workmen as well as all the supplies and material required had to be brought from Selkirk.

Unfortunately the lake was closed to navigation very early this season, and the collection of eggs did not meet with the success that had been anticipated. One hundred millions of eggs had been secured, but intense cold weather set in and the steamer was frozen in the mouth of the Little Saskatchewan river, which of course pre-

vented the eggs from reaching the hatcheries and they were returned to the water. It has, however, been clearly demonstrated that a sufficient quantity of eggs to fill both the Selkirk and Berens river hatcheries can be secured, and excepting an extremely early winter, which was this year fully a month earlier than usual, safely landed at the hatcheries.

In order that the difficulties surmounted in collecting the whitefish eggs referred to may be appreciated, the following detailed report is given:—

‘We had bad weather right at the start,’ said Mr. Young, when seen at the residence of his father, Mr. Jas. Young, last night, ‘but we arrived at Berens river safely on October 3. We left Mr. Hooker there to attend to the hatchery, and accompanied by the tug *Alert* went on to the mouth of the Little Saskatchewan river, on the western shore of Lake Winnipeg. We reached there on October 5, and our first business was to haul the *Rocket* up on to the beach and put a new flange on the propeller, one having been lost off Tree island.

Early Snowfall.

‘We got to work at once with our nets, capturing whitefish, transferring them to crates in which they were kept until they were ripe to yield their spawn, and then putting the spawn in cases ready to take it to the hatcheries. The first snowfall of any consequence was on October 10, and snow fell every few days from that time until we left, none of it thawing. There was a little frost right along from the 10th, but there was nothing in the weather to hurt until the 22nd, when a strong wind from the north drove the water back up the river, causing it to rise four feet above the ordinary level, and sweeping away two or three thousand of our fish.

‘For the next day my diary says, “very stormy and snowing, with wind from the north,” and the day after it became colder and snowed heavily, with the result that on the surface of the river, in which we were anchored, there was two feet of slush gradually freezing and forming into huge blocks, with the small pieces of ice that had formed in the turns of the river, and had been broken off when the water rose. The frozen slush first jammed and then broke our nets, which were in the current of the river, carrying them out into the lake, and on the 26th the jam became so heavy that the *Rocket* was dragged from her anchorage and carried half a mile into the lake. Not having steam up at the time, we were not able to steer the boat, but fortunately she drifted out of the current, and stopped before any harm was done, and Captain Marshall extricated her from the ice without much damage. Next day the chances of getting away with the boat seemed small, and we got the outfit down the river by dog trains ready to make for Berens river.

‘Alert’ Gets Away.

The *Alert* made the trip on Saturday with supplies, however, and I thought we would hang on for another day or two, to try to fill the balance of spawn cases. On Monday, October 30, we started for Berens river and broke our way out through the ice for half a mile, but had to turn back eventually with some of the planks in the bows of the boat smashed in by the ice, which was from one to two and a half inches thick. We repaired the boat, and on Tuesday started again for Berens river. Then the pump engine went wrong and we had to go back the second time. That night a strong wind broke up the ice, and we made the second attempt to take the spawn to Berens river, only to smash another plank on the ice that formed as soon as the wind went down. The same afternoon we tried once more and at last succeeded in getting through the first sheet of ice, which extended for two miles, but after travelling about four miles in the open water, we struck ice again which was so thick that we could not break it up. When we got back to the first sheet of ice, the channel had closed up, and as it was getting dark we had to stay there for the night.

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Stranded on the Ice.

'At 3 in the morning part of the ice moved and carried the *Alert* four miles out into the lake, and piled the *Rocket* up on the ice. At daylight the *Alert* managed to work her way round into some open water, and came within a thousand yards of the *Rocket*.

'Eventually by using axes and a saw, we were able to cut the ice so as to get the *Rocket* free, but after we got into the open water we had to chop the channel three miles back to the Little Saskatchewan river, which we reached on the afternoon of November 2. After that we could only wait and see what the weather would do. We got some more eggs and filled the balance of our cases, making altogether one hundred million eggs, which is more than have been secured any three years previously.

100,000,000 Spawn Lost.

'We laid the boats up for the winter on November 13, and the same day released all fish we had in the crates, and dumped the hundred million eggs back into the river. On the 16th, with a dog train hired from the Indians at the settlement near by, we started for home. We had five teams of four dogs each, and these drew the baggage and sleighs, while we walked. Fortunately, we had plenty of supplies. We reached Lake St. Martin on the first day, after a tramp of 30 miles, and after spending the night in the log houses of the Indians, secured a couple of teams of Indian ponies, with which we travelled next day to Lower Fairford. The ponies were not big enough for us to ride, but at Moose Horn, our next stopping place, we got some which were a little better.

Long, Hard Trip.

'We travelled 35 miles that day, over the thawing snow and mud, taking turns at riding. At Moose Horn bay, we stayed at the house of James Mathieson, a special fishery guardian posted there, and from him I secured two teams of good horses, with which we next day reached William Monkham's houses at Dog creek, after covering 32 miles of the worst road in Manitoba, consisting chiefly of swamp, muskeg and marsh. The next day (Monday) we travelled from Monkman's to Swan creek, a distance of 40 miles, and to-day we arrived at Oak Point at 9.45 a.m. This was the first place we had struck from which we could telegraph news of our whereabouts, and I despatched messages to various parties.

Personnel of the Party.

'Our party consisted of Capt. Marshall, in charge of the *Rocket*; William Simpson, the mate; Simon Stewart, chief engineer; Robert Clark, cook; Henry Hawes, fireman; and Percy Johnston, deck hand. Capt. Cochrane, of the *Alert*; Alex. Gilliland, engineer; and Frank Reid, fireman. The others were Peter Ives, John Stacey, William Coomber and John Thumser, who handled the nets. Thumser lives at Big Black river on the north end of Lake Winnipeg, and we left him on the *Rocket*, he intending to stay there until the ice was strong enough for him to travel home. The rest of the men are all staying in Winnipeg for the present, and with the exception of Clark, will go to their homes in Selkirk to-morrow. Mr. F. E. Hooker, the officer in charge of the hatcheries, left us at Berens river, and there need be no apprehension as to his safety. There is quite a large settlement there, with a Hudson's Bay post and a Methodist church.

BRITISH COLUMBIA.

The department recognizing the necessity for extending its fish cultural work in this province, has during the past two seasons erected three large hatcheries, expending large sums of money in fitting them up with all modern appliances.

Harrison Lake Hatchery.

This is the largest of the three new hatcheries and is in fact the largest hatchery in Canada. It is situated on Harrison lake, and has a normal capacity for handling over thirty millions of eggs. Connected therewith is an electric light plant and a system of fire protection with an abundant water supply. Over thirty millions of eggs are this season undergoing incubation in this hatchery.

Pemberton Hatchery.

This is also one of the new hatcheries and was erected during the past season at the junction of Owl creek and the Birkenhead river. The site was selected after a personal inspection which, coupled with such information as it was possible to secure from other sources, tended to show that it was extremely well suited for a hatchery and the river one of the most reliable on which to depend for the annual collection of eggs.

Mr. Alex. Robertson, the officer-in-charge, has submitted a clear and full report on the construction and the present state of this establishment. Recent reports received show that a very satisfactory state of affairs now exists and a large distribution of fry is practically assured.

Rivers Inlet Hatchery.

This hatchery was also built during the past summer and is located on McTavish creek. The building, one hundred and fifty feet long by forty feet wide, is now carrying ten millions of eggs, which considering the almost insurmountable difficulties that had to be overcome, reflects great credit upon Mr. Wm. Roxburgh, the officer-in-charge.

The details of construction and the means taken to secure the eggs appears in Mr. Roxburgh's report.

Skeena River Hatchery.

This establishment has been in operation since 1894, and each year's work has been attended with success. The report of Mr. Thomas Whitwell, the officer-in-charge, covers the details connected with the management of this hatchery.

Granite Creek Hatchery.

During the past season it was not only possible to fill this hatchery with eggs taken from fish captured in the local streams, but in addition thereto over four millions of eggs were secured and transferred to the coast hatcheries. There are now some twelve millions of eggs undergoing incubation in this establishment.

It is necessary that some changes be made to the outside buildings connected with this hatchery and this matter will receive attention during the coming summer.

Fraser River Hatchery.

This is the oldest fish-breeding establishment in British Columbia, and an immense quantity of fry has been hatched and distributed therefrom during the past nineteen years.

The main spawning stream from which this hatchery has in the past secured its eggs has been handed over to the Harrison lake hatchery, so that whilst some arrangements have been made to prepare other streams, it is necessary that one good locality should be selected for the collection of eggs as it centralizes the work and thus adds to the success of the operations.

The officer-in-charge of this establishment, Mr. J. A. Johnson, has during the past season made improvements which will add much to the efficiency of this hatchery.

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In this province a change has been made in the management of the fish breeding service. Before the number of hatcheries was increased the inspector of fisheries had a general supervision, but with the development of the service it was decided to place a competent officer in charge of each establishment who would be responsible to the department at Ottawa. Thus a satisfactory and uniform system now prevails all over the Dominion. From a personal inspection I may state that the hatcheries, as at present operated, are doing splendid work and are in charge of competent and painstaking officials.

General Remarks.

Last year reference was made to the necessity for additional hatcheries on the great lakes of Ontario, and an inspection was made of several places with a view of deciding on some line of action. Whilst consideration was given this matter no definite decision has yet been reached, and it is important that something be done to assist nature in keeping up the supply of fish food in these waters.

The staff of officers connected with this service have been painstaking and zealous in the performance of their respective duties.

Inspector Finlayson, with headquarters at Ottawa, has rendered valuable service during the past year. The inspection of hatcheries and the instruction of new appointees, together with the long trips entailed by the collection of fish eggs and the distribution of fry, have been satisfactorily performed.

Encouraging reports on the success of the efforts put forth by this department to maintain the supply of fish food are received from all parts of the Dominion and the requests for additional fish hatcheries are numerous, thus showing that the public is with the department on the question of fish culture.

I am, sir,

Your obedient servant,

F. H. CUNNINGHAM,

Superintendent of Fish Culture.

1. FRASER RIVER HATCHERY, B.C.

NEW WESTMINSTER, B.C., December, 1905.

Prof. E. E. PRINCE,
Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour to forward report of the past season's operations at the Fraser river hatchery, Bon Accord.

The total number of salmon eggs taken for this hatchery was:—

Sockeye, 8,650,000.

Spring, 49,000.

Cohoe, 2,407,000.

The number of sockeye eggs might have been somewhat increased, but the new hatchery at Harrison lake being ready to receive eggs before the spawning season closed, the eggs taken at the end of the season were handled there.

Of the sockeye eggs taken, 4,000,000, when eyed, were forwarded to the Granite creek hatchery, Shushwap lake, and 2,000,000 to the Harrison lake hatchery.

With the exception of a few thousand from the upper Pitt river, all our sockeye eggs were obtained from the old spawning grounds, Morris creek and other tributaries of the Harrison lake system.

The first shipment of sockeye eggs was received at the hatchery from Silver creek, Harrison lake, on the 14th of September, and the last from Morris creek, on 22nd of October.

The first shipment of Cohoe eggs was received on the 5th of November, and the last on 21st of December.

Whatever may be the case in future as regards a local supply of sockeye eggs for this hatchery, there should be no difficulty in getting a full supply of Cohoe eggs.

Mr. Leeson, of Quatsino sound, on the west coast of Vancouver island, applied for a planting of sockeye fry there with the view of seeing if sockeye could be induced to use these waters as spawning grounds. It was too far to send live fry but I sent him a shipment of 60,000 eggs with instructions as to planting them, and he reported them as having done well.

The sockeye fry were distributed as follows:—

Upper Pitt river....	1,300,000
Sauch-en-auch creek..	60,000
Squamish river..	60,000
Lillooet river (Pitt river)....	650,000
Coquitlam river....	100,000
Cowichan river ..	60,000
Serpentine river....	70,000

The balance representing those that were released at the hatchery, and the loss.

The Cohoes were released at the hatchery and Coquitlam rivers and also in the Upper Pitt river, Sturgeon Slough, and Lillooet rivers, belonging to the Pitt river system.

Besides the above, 30,000 spring salmon and 30,000 trout fry were planted in Cowichan river, and 20,000 trout in Shawnigan lake.

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A shipment of Atlantic salmon eggs was received at this hatchery, on the 6th of April, in an eyed condition, and arrived with very little loss. These hatched out well, but, perhaps owing to the higher temperature of the water, scarcely did as well as our native salmon after hatching.

They were planted as follows:—

Shawnigan lake (east coast of Vancouver island).....	10,000.
Koksilah river (east coast of Vancouver island).....	10,000
Cowichan river (east coast of Vancouver island).....	20,000
Chemainus river (east coast of Vancouver island).....	10,000
Nanaimo lakes (east coast of Vancouver island).....	30,000
Englishman's river (east coast of Vancouver island).....	20,000
French creek (east coast of Vancouver island).....	10,000
Little Qualicum (east coast of Vancouver island).....	20,000
Big Qualicum (east coast of Vancouver island).....	10,000
Courtenay river (east coast of Vancouver island).....	30,000
Trout creek, Harrison lake (mainland).....	1,000
South Lillooet river (Pitt river) east coast Vancouver isd...	4,000
North Lillooet river (Pitt river) east coast Vancouver isd...	2,000
Stave river (east coast of Vancouver island).....	2,000
Coquitlam river (east coast of Vancouver river).....	1,000
Squamish river (east coast of Vancouver island).....	20,000

I remain, sir,

Your obedient servant,

C. B. SWORD.

2. HARRISON LAKE HATCHERY.

HARRISON HOT SPRINGS, B.C., November 16, 1905.

Prof. E. E. PRINCE,

Dominion Commissioner of Fisheries,
Ottawa.

SIR,—In compliance with your request, I have the honour to submit my report of the hatchery operations for the present year.

The salmon fry hatched last winter were all liberated in the hatchery creek during March of present year and consisted of:—

Sockeye salmon	2,600,000
Cohoe salmon	1,755,000
Spring salmon	2,150,000

Total for season 1905..... 6,505,000

The collection of ova this fall, though very disappointing during the earlier part of the season, has been on the whole very successful. We are not quite through collecting at present, but I do not expect that the total eggs given below will be materially increased. We have in the hatchery at present a little over 30 million salmon eggs, consisting of:—

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Sockeye salmon	27,500,000
Spring salmon	560,000
Cohoe salmon	2,100,000
Total	30,160,000

The source of supply is as follows:—

Silver creek	869,000
Douglas creek	490,000
Hatchery creek	1,603,000
Morris creek	16,147,000
Cheate's rapids	5,551,000
	24,660,000
From Pemberton hatchery	4,000,000
From Granite creek hatchery	1,500,000
	5,500,000
	30,160,000

The collection from Silver creek, whence I expected to secure two or three million eggs of the earlier run of salmon was, on account of an extremely high freshet, almost a failure. Something must be done at this point, during low water this winter, to provide proper foundations for the fence, or the creek should be abandoned as a collecting station.

At Morris creek the run of fish was very late, giving us great anxiety as to supply, but notwithstanding the lateness of the season and the serious trouble with high water, we were enabled to hold every sockeye that came to the creek.

Cheate's rapids, in Harrison river, as a source of supply for ova, has never been exploited to any great extent before, and I am well pleased with the results we had this season, though far from satisfied with the present method of securing the salmon there, and hope to devise a better method before another season, so that the parent fish can be captured without injury, and the unripe held in an enclosure until mature. The rapid current here makes ordinary seining impossible, and the size of the stream prohibits the building of a retaining fence.

I am pleased to report that the water supply of the hatchery and the plant generally gives every satisfaction and that the ova from the several creeks come to us in good condition here, on account of shorter transportation, resulting in less loss and a relatively small staff.

It will be necessary to provide rearing ponds for part of the fry as soon as they hatch, otherwise the troughs will be overcrowded. Fortunately, the hatchery site admits of this outside accommodation being made at a comparatively small cost. The experiment commenced last season in treating eggs with brine as a corrective for fungus, and for the maturing and separation of dead eggs, has been continued during present season with good results, inasmuch that without its aid we would require a much larger staff to handle the large number of eggs on hand.

I would again call your attention to the urgency of a steam launch being specially built for the work in collecting ova, and the transfer of supplies and material; also for the work in connection with the Pemberton hatchery, which is dependent on us here for transportation on the lakes. The present method of hiring such steamers as are available is most expensive and in every way unsatisfactory. Much interest is taken in the hatchery and its operation, by the public and especially by tourists. The proximity of the hot springs sanitarium gives us many visitors from all parts of the world.

I have the honour to be, sir,

Your obedient servant,

THOS. ROBINSON,

Officer-in-charge.

3. PEMBERTON HATCHERY,

LILLOOET, B.C., November 8, 1905.

Professor PRINCE,
Commissioner of Fisheries,
Department of Marine and Fisheries,
Ottawa.

SIR,—I herewith have the honour to submit my first annual report on Pemberton hatchery to your department. A report on this hatchery would not be complete without an account of its situation and the different ways of conveyance required to reach it.

Pemberton hatchery is situated four miles to the east of the lower extremities of Pemberton meadows, at the junction of Owl creek and the Birkenhead river, four miles above its confluence with the eastern branch of the Lillooet river, which in turn discharges into Lillooet lake. The hatchery lies as near as can be judged one hundred and seventy-five miles in a northeasterly direction from New Westminster, which is the home of the fishing industry in British Columbia. The route, however, one has to travel from there to Pemberton is very circuitous, starting with a railway journey to Agassiz, a stage drive of five miles brings you to Harrison Hot Springs, where the splendid Harrison hatchery, built last year by the Dominion government, can be seen four miles up the lake. The next stage of the journey is one of forty-five miles by the Harrison lake to Port Douglas which is now but a relic of its former days, when this was the route to the Cariboo diggings.

The traveller now has to resort to a more primitive mode of travelling, and by the time he reaches Tenas lake, thirty-five miles from Douglas, he will be heartily glad to exchange his Indian cayuse for a seat in the canoe, if he has not been accustomed to riding. Tenas lake is six miles long and very narrow, being rather a widened part of the Lillooet river than a lake. At its head it narrows down to a swift river again, a mile of which brings one into Lillooet lake, sixteen miles in length. When half the lake has been traversed in a northerly direction it takes an abrupt turn to the west and from here the first view of Pemberton meadows can be had. When the river is high the canoe can be taken six miles up the river to the rancherie, but usually one has to land at the head of the lake and ride the remainder of the way, ten miles, to the hatchery.

The Birkenhead river, on which the hatchery is situated, is considered by competent authorities, to be the best sockeye spawning stream in British Columbia, and is unlike other spawning grounds in the respect that there is said to be a good run even in off years.

After the site and construction of the hatchery had been decided on, the contract for the lumber was let to Duguid & Hurlay, of Lillooet, who deserve credit for the manner in which they surmounted the difficulties incidental to bringing a 23,000 lb. saw-mill outfit, the 36 miles by raft on Seton and Anderson's lakes, and 24 miles of mountain road to Owl creek. They were three weeks on the road coming in and the same going out; the boiler alone weighed 6,000 lb., and they were engaged four months in sawing the 170,000 feet and planing 130,000 feet of lumber of which the buildings were constructed. Mr. Forrester, the building superintendent, started actual construction in May, though previous to that he had a gang of Indians employed clearing the site, making roads and hewing the sills. One could hardly imagine a rougher spot than that on which the hatchery now stands, in addition to the

large trees which were sawn for lumber and their stumps blown out, the ground was covered with large boulders brought down by Owl creek in ages past.

The hatchery is a one-story building 40 feet by 150 feet long with 12-foot walls; it has 12-inch cedar foundations, 2-inch by 8-inch joists, 2-inch flooring and 2-inch by 6-inch studding, the roof is built on the truss system, which obviates the need of posts in the centre and consequently gives a clear floor space from wall to wall; the building is sheathed with shi lap and rustic on the outside and lined with 6-inch V-joint inside; it is lighted by 27 large windows and 12 3-ft. by 8-ft. skylights, and is roofed with Elalorite fireproof roofing. The exterior is painted cream with white trimmings and the interior white.

The hatching apparatus is thoroughly up to date in every particular. A head tank, 18 inches by 18 inches, runs the entire length of the building, and the hatching troughs, 112 in number, 16 feet long, 16 inches wide and 6 inches deep, built of 2-inch plank are arranged in groups of four, with a fall of 6 inches between the upper and lower pair. Water is supplied to the troughs from the head tank through $1\frac{1}{2}$ plugs. The waste connections are 2-inch diameter and the waste ditches are 6 inches by 6 inches and 6 inches by 16 inches. The troughs which are painted white outside and lacquered inside, hold six 16-inch by 24-inch baskets each and riffles are provided between each basket.

A floating gauge in the head tank connected to an electric circuit communicating with the boarding house rings an alarm there when the water either rises or falls an inch. This is the first electric tank alarm installed in a British Columbia hatchery. The boarding house which is painted the same as the hatchery is a two-story frame building, 16 feet by 24, with an addition containing kitchen, pantry and bath-room. The main building contains dining room, 12 by 16, office 10 by 12 and hall; upstairs there are four bedrooms. The interior is varnished, and hot and cold water is supplied to a sink and bathroom. A pipe line of 600 feet supplies the water.

There are also a workshop and wood-shed, 14 feet by 20 feet and 12 by 20 feet respectively, sheathed with rustic and painted uniform with the main buildings. The flume for the supply of water to the hatchery leads from a dam situated 400 feet up Owl creek; it is built of 2-inch by 16-inch, 2-inch by 14-inch and 2-inch by 12-inch 2-inch plank. It is the largest at the intake and is tarred outside and in, half way down it is broken by a 10-inch cedar log settling tank, 10 feet by 30 feet by 5 feet deep. It is at present being roofed over. There is also an emergency flume extending 150 feet farther up Owl creek to a dam there in case of accident to the main one.

The work done by Mr. Forrester is creditable both to the department and himself, and his efforts to have the hatchery finished by August 1 were rewarded by the water being turned on for the first time on that date in spite of unforeseen circumstances and difficulties. In the meantime the building of the traps for the taking of the parent fish had been under way for some time. They were located 200 yards above the hatchery on the Birkenhead, at a point where there was a large rock on both sides to protect the banks. The main fence was built on the tripod system. Ten tripods made of 7-inch fir poles were placed at regular intervals across the stream and filled with rock. The height of water—four feet—made the job an arduous one. The large boulders in the bed of the stream which could not be seen, though their effect on the water was plainly visible, contributed to the difficulty. After two weeks' exertion, during which time dry clothes were almost an unknown quantity, the tripods were placed in position and the stringers fastened down. The fencing proper consisted of sections 6 feet by 12 feet, made of 1-inch by 4-inch on edge, and bolted together, and had been under construction while the tripods were being placed. They were laid on the stringers with a 2 to 1 slant lying downstream, and had a yard of heavy duck canvas nailed along the heel of them to prevent the salmon burrowing; rock was then placed in front, the pens anchored and leads built from the fence to them. There were fifteen pens in use altogether of different sizes, 12 feet by 12 feet, 10 feet by 12, and 6 feet by 12. Two more fences were built after this before the run came, one 100 yards

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below the first one to keep the salmon from drifting down. When the run was at its height a section of this fence had to be taken out to prevent the fish crowding too much, though the space between the fences was 100 feet by 200 feet with about three feet of water. Another fence was constructed, one and a half miles above the hatchery, as a safeguard against mishap to the lower ones.

The first sockeye arrived on August 15, but not until the 27th did the run fairly get here; on the morning of that date the pens hardly had 100 fish, but by night it was found necessary to close the leads to the pens to prevent overcrowding. From the 27th till September 8, the leads were hardly opened, as it was found that the salmon would not stand penning. The first spawning of 100,000 ova was made on September 4, but all the fish were not in a ripe condition; on the 8th 1,000,000 were taken.

Spawning started in earnest on Monday, the 11th, and by the end of the week 8,500,000 were secured. Mr. Cunningham, superintendent of fish culture, arrived on the 15th, and left on the 17th, and inspected the spawning operations and hatchery; he was accompanied by Messrs. Forrester and Finlayson. By the end of the week ending September 23, the total in the hatchery was 21,350,000, 2,500,000 being spawned by four spawners in one day.

At this time twenty men were employed. A freshet on the 21st washed a number of salmon over the lower fence and down the river, where they spawned naturally. Altogether 28 millions of sockeye ova were taken, one and a half millions of them at the mouth of the river by means of a seine. The Cohoe run did not come up to expectations, only 600,000 ova being spawned and practically all the fish were taken in the traps.

During the run of sockeye the males outnumbered the female fish five to one; they were only blocking up the pens, so I gave the Indians liberty to take all they wanted. They took over 4,000 from first to last. The Indians, I may say here, have given no cause for complaint so far. The only thing I can say against them is that their charges are extortionate.

As you are aware, Mr. Johnson, officer-in-charge of the Fraser river hatchery, received two shipments from here; the first lot of two and a half millions he took out himself; Messrs. Davis & Martin took down the remainder. A shipment of 4,330,000 also went to the H. L. hatchery in charge of Thos. Graham, of the staff of that hatchery. In consequence of these shipments leaving, there were several empty troughs in the hatchery. To relieve the congestion in some of the baskets which contained 50,000 ova, I am redistributing the remaining eggs over the whole hatchery at the rate of 30,000 to the basket. The main fence is still in the river; there are a few Cohoe lying below waiting for a rise in the river; they only travel during a freshet.

Since October 1, an average of four men a day have been picking the 20,000,000 which the hatchery now contains. We are engaged at present building troughs to hold the surplus fry. I intended building outside ponds, but came to the conclusion that to do so without building a roof over them, for which we had no time, would only be courting disaster considering the snowfall of 3 to 4 feet. The troughs we are building are 12 feet long and 2 feet wide, with a partition down the centre which makes two troughs of it. They are placed beneath the hatching troughs on the floor, the waste from which passes along one side through an overflow and back the other side, making a return to the same end that it enters from, but with the partition between. There will be twenty-seven of them built this winter, and if they work well, and I believe they will, twenty-seven more could be placed beneath the upper run and fed from the head tank. They will have one advantage over outside ponds in that they will be easier kept clear of ice and snow, as the hatchery has two heaters in it now.

The experience gained this year will be of great use another season, though the practice of holding fish in pens works well on the lower spawning grounds. I find that it fails here. Several fences are wanted in the river at the hatchery forming pools where the fish can be held. The upper fence should be high and strong and with pens in connection to spawn out of. About 200 yards down another fence should

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be thrown across and the first run of salmon allowed to enter and then closed up; 200 yards farther down the process could be repeated and even a fourth fence put in, if necessary; by this means the fish would mature more even than was the case this fall, when the fresh run and mature salmon were mixed up between the fences. I also found that large numbers of sockeye spawn between the hatchery and the mouth of the Birkenhead. The early run of sockeye pushes on to the head waters of the streams they frequent; the subsequent schools run till they come up with the preceding one, and so on, and the late ones content themselves by spawning on the first bar they encounter. A fence put in during the latter part of the season at the mouth of the river would take a large number of fish that would otherwise never ascend to the upper fences, and the ova taken there could be sent direct to the lower hatcheries.

The first season at a new hatchery is always the worst, as the spawning conditions vary in streams a few miles apart, and a system which works well in one may prove a failure in another. But I would like to say that the staff of seven have done their best to make it a success, and so also has the local help employed.

I have the honour to be, sir,

Your obedient servant,

ALEXANDER ROBERTSON,

Officer-in-charge Pemberton Hatchery.

4. GRANITE CREEK HATCHERY.

NEW WESTMINSTER, B.C., December 22, 1905.

Prof. E. E. PRINCE,
Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour to forward report of the operation of the Granite creek hatchery for the season 1904-1905.

As stated in my report last year, we had 4,679,000 salmon eggs in this hatchery at that date; 490,000 cohoes and 4,189,000 sockeyes, of which last only 189,000 were secured locally, the balance of 4,000,000 having been shipped up from Bon Accord hatchery.

The sockeye eggs locally taken which had been placed in the hatchery on September 11 (having been taken in small lots since August 24) began hatching on October 13. The fry from these and from the eggs from Bon Accord, which reached the hatchery in an eyed condition on October 30 and November 4, were released at the Hatchery creek between March 3 and 14.

In addition to the salmon eggs treated, we hatched out 15,000 trout fry, the eggs being taken from trout taken at the creek at the hatchery. Of these 10,000 were planted on July 13 in the creek running into Skimiken lake, and 5,000 on August 4 in the creek at the hatchery. These fry had been kept over and fed for about six weeks after they had reached the stage at which they might have been released.

With regard to the trout fry planted in Skimiken lake, these seemed to do very well. The first lot were planted out in 1903, and in Skimiken lake, and in a chain of lakes discharging into it, the settlers report having found these trout of considerable size for more than a year back. One is reported to have been taken of 18 lbs. weight, but I fear there must have been some exaggeration in regard to this.

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Skimiken lake itself, which was only a small lake, is reported to have dried up owing to the water breaking through into an underground channel, as had happened once before, but the trout had passed up through the creek running into it in other lakes above.

With regard to the current season's operations, conditions have been quite reversed from those of the last three years. Instead of depending on the coast for a supply of eggs, we have been able to send down 3,000,000 sockeye eggs to the Bon Accord, and 1,500,000 to the Harrison lake hatchery.

These shipments might have been very largely increased had we been better supplied with trays, and had it not been for a misunderstanding as to the supply of eggs there.

Our first sockeye eggs were taken at Scotch creek on August 20, the camp being closed down on October 30.

Finding that the coast hatcheries had room for more eggs, we again put in a camp on October 30 at Adams river, securing about three and a half million eggs, and closed the camp finally on December 4.

The total number of salmon eggs handled this season at the hatchery was about 18,000,000; and we have about 12,000,000 (counting some already released) still at the hatchery.

We had an experience with the sockeye this year, unprecedented (so far as I can learn from the Indians) in a second heavy run. While there is often a moderate run in Adams river after the termination of the Scotch creek run about the end of September, the sockeye this year have continued to run well into this month, some fish freshly arrived having been seen spawning in the Thompson river between the Shuswap and Little Shuswap lake as late as December 10.

Your obedient servant,

C. B. SWORD,

Acting officer-in-charge.

5. SKEENA RIVER HATCHERY.

LAKELSE RIVER, B.C., October 9, 1905.

To Professor E. E. PRINCE,
Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour to submit this my third annual report of the season's work for 1904 and 1905 at the Skeena river hatchery, under my charge. I arrived at the hatchery on May 21, accompanied by Mr. Keefer, of the Public Works department; also Messrs. Herman and Pretty.

On the 23rd I showed Messrs. Keefer and Herman the creek where the water was obtained from to supply the hatchery, and gave them all the information I could.

They then took measurements, &c., and decided to build a crib-dam a little lower down the creek than the two dams which had been put in previously.

On the 24th Messrs. Keefer and Herman left for Port Essington, and on the 27th Mr. Herman arrived back again with eleven white men and seven Indians in two large canoes with supplies, tools, &c., and started work next morning.

On June 17 we caught two bright sockeyes in Lakelse river, the first seen for the season.

During the months of June and July we had considerable work to do, such as relacquering and painting troughs, cleaning out flume, repairing skiff, canoe, &c.

On August 3, I left the hatchery with Messrs. Pretty, Hall and Kendal, for Sockeye river, to get our fences placed in position, and on the 9th we had fenced two creeks beside putting in our main fence; also putting two traps in position, altogether 228 feet of fencing.

On August 22 we commenced spawning and on that day got 430,000 sockeye eggs, 570,000 on the 26th, 680,000 on the 31st, 784,000 on September 6th, 320,000 on the 9th, 584,000 on the 13th, and 752,000 on the 20th, making altogether 4,120,000 sockeye eggs.

The first shipment commenced eyeing 35 days at 422 units of temp.; second shipment eyeing 35 days 418 units; third shipment eyeing 37 days 429 units of temp.; fourth shipment eyeing 39 days 411 units of temp.; fifth shipment eyeing 38 days 406 units of temp.; sixth shipment eyeing 40 days 406 units of temp.; seventh shipment eyeing 48 days 400 units of temp.

On September 6 we had a big freshet and another one on October 1, and on that day I noticed a great quantity of cohoes both in Lakelse river and Coldwater creek.

On October 15 we caught two steelheads for the house, and noticed several others in the river.

On November 13 we had another big freshet, the water rising within 1 inch of coming into the hatchery again, which caused us lots of bother on account of the mud and slime, in some troughs, as much as three inches of mud, covering the eggs in some of the baskets, and I think that we lost several thousand eggs through being smothered.

On November 25 a few premature fish started hatching 95 days after spawning.

On December 9 second shipment commenced hatching. On the 16th the third shipment hatching. On January 5, 1905, the fourth shipment hatching. On the 16th the fifth shipment hatching, 131 days 803 units of temp. On the 25th, sixth shipment hatching. On February 15, seventh shipment hatching, 148 days, 869 units of temperature.

On the following dates I was compelled to put out a few fish in suitable places in the alevin stage to relieve some of the troughs:—

February	8	—put out.	75,000
“	15	“	125,000
“	21	“	50,000
“	27	“	50,000
March	6	“	75,000
“	7	“	50,000
“	21	“	75,000
			<hr/>
			500,000

The remainder of the young fry we kept back until the 1st, 2nd and 3rd of April, when we liberated them, and on those particular dates we were very fortunate in being able to get up Lakelse lake to Sockeye river, where we planted 1,500,000 of the young fry on the parent spawning ground.

Number of fry planted out:—

Sockeye river.	1,500,000
Lakelse river.	1,767,900
Coldwater creek.	500,000
<hr/>	
3,767,900	

Although the quantity of dead eggs picked out is somewhat large, I think under the circumstances we have had a very favourable season, notwithstanding the bad

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freshets we had and the defective system of filtration that we have at Lakelse hatchery. Under the present system of our water supply, I hardly know how it can be remedied.

Since the dam was finished I can only say that we have had all the water that we require for the hatchery, but still no better system of filtration to prevent mud and slime coming into the troughs.

We raised a lot of very fine vegetables, which was a considerable saving to the department. We grew good potatoes; also lots of cabbage, turnips, carrots, lettuce, &c., which are very valuable commodities up in that country, as on some occasions we have had to pay as high as one hundred and sixty dollars a ton for getting in our supplies, &c., from Port Essington, according to the stage of the water.

In conclusion, I can only say that there will have to be a few more hundred dollars expended in connection with the dam. The overflow at the apron has caused an eddy at one side, and that is gradually washing the filling away that was put in the last two sections of cribwork. There will either have to be some 25 feet of additional cribwork built and filled in, or about 30 feet of close piling filled in at the back with rock and brush, and if either is done I think that will make a good permanent structure.

I am, sir,

Your obedient servant.

THOS. WHITWELL,

Officer-in-charge Skeena River Hatchery.

6. RIVERS INLET HATCHERY.

The location of this new hatchery, nearly 20 miles up Rivers inlet and about 280 miles up the coast from Vancouver city, could not in many respects be surpassed, though as in all such establishments erected in the midst of lofty mountain ranges, there are many risks to be run in operating them. In settled regions, or beside lakes and rivers in level country a hatchery can be run with comparative security, but landslides, snow-slides, abnormal freshets after heavy rains, &c., are unavoidable dangers at the headwaters of British Columbia rivers, and these dangers often entail continual precautions and much laborious work on the part of the officer in charge and his staff of labourers and assistants, in order to prevent damage and serious interruption of the hatching operations. But there are conditions provided at the Rivers inlet hatchery, which it would be impossible to excel elsewhere, viz., abundant supplies of water not more than 30 or 40 yards away supplied by gravitation; extreme purity and excellence of the water, which is of crystalline clearness; superabundance of spawn owing to the favourable character and accessible situation of the breeding grounds on the tributaries of the Oweekayno lake. The officer in charge (Mr. W. Roxburgh) and his staff had to curtail the taking of eggs, so extremely abundant were the ripe spawning fish, so that it would have been quite easy to have taken twenty or even forty millions of eggs had it been desirable to do so. In order to insure the healthiness of the eggs, and the robust condition of the young fish, it is of course necessary to not overfill the trays. In some hatcheries eggs are placed many layers deep; but the unwisdom of that method has been proved, and the best results, as practical experience shows, follows when each tray is only moderately filled, and the flow of water freely reaches every egg. Hence ten millions of sockeye eggs were ample to reasonably fill the trays; and it was decided not to take more, though, as already stated, 20 to 40 millions could without difficulty and with little extra labour have been secured.

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The sockeye schools ascended the lake in August, but further schools continued to ascend until November. Indeed, on the occasion of the visit of Professor Prince, the Dominion Commissioner of Fisheries, who inspected the hatchery on December 13 and 14, sockeye were still to be seen wriggling up the river flowing from the lake, although the banks were lined with immense quantities of dead and decayed sockeye salmon.

Owing to the precipitous character of the stream supplying the hatchery, and the rapid changes in its condition during and after freshets two 'intakes' had to be provided, one an upper nozzle in a small pool formed by a small dam which Mr. Roxburgh constructed, and a second 20 feet lower down in the form of a screened box 'intake,' which is designed to secure water when the stream is very high and the nozzle 'intake' will not work. To protect the hatchery from the lake, which often rises very rapidly, and is at times very stormy, a massive embankment has been built by the hatchery staff, under Mr. Roxburgh's directions on the north and east side of the building. It is a strong cribwork, filled with heavy stones and runs about 200 feet along the lake shore. It is $4\frac{1}{2}$ feet high and 6 feet wide, and is of a very substantial and effective character.

The quality of the eggs obtained was excellent, and the result of the first season's operations at McTavish creek cannot fail to be most satisfactory and of great benefit to the fast developing canning and fishing industries of Rivers inlet.

7. NIMPKISH HATCHERY, B.C.

The hatching operations carried on upon the Nimpkish river at the northern end of Vancouver island, under the British Columbia Packers' Association have again proved highly successful, and show an increase upon the output of the three previous years. The original hatchery, built and operated by special arrangement with the Dominion government, in 1902-03 was, it will be remembered, burned down after the close of the first year's work. In the new building erected in place of the one destroyed, 2,640,000 salmon eggs were placed in October, 1903. Out of these ova 2,496,000 young salmon were liberated in April, 1904. Mr. Roxburgh, who started the original hatchery, was later appointed to take charge of the Rivers inlet institution, and Mr. Bucknall succeeded him. He commenced taking spawn in the tributaries of Nimpkish lake on October 12, and finished on November 18, obtaining in that period a total quantity of 3,050,000 eggs. These were carried through the stages of incubation and the output of fry was no less than 2,850,000, which were released in the Nimpkish waters. The average temperature of the water while the eggs were being hatched in the troughs was 42.07°F —a much warmer temperature than usual.

Mr. Chambers, the manager of the Alert bay cannery, Cormorant island, in connection with which the Nimpkish hatchery is operated, has secured this fall the exceptionally satisfactory quantity of over 5,000,000 sockeye eggs, and he reports that from the present very favourable appearances the process of hatching will this season be carried through with a very small percentage of loss. Last season, with its output of 2,850,000, the loss was about 16 per cent, but this season, 1905-06, he expects to get them through with even less loss.

8. BEDFORD HATCHERY, NOVA SCOTIA.

BEDFORD, N.S., November 23, 1905.

Prof. E. E. PRINCE,
 Dominion Commissioner of Fisheries,
 Ottawa.

SIR,—I beg to submit my report of operations at the Bedford hatchery for the current season.

Out of the million salmon eggs procured last season at the Carleton pond, fully 800,000 were hatched and the fry planted in a healthy condition during the months of May and June last, in the waters named below:—

SALMON.

Carleton river, Yarmouth county, N.S.	50,000
Hervey river, Yarmouth county N.S.	50,000
Tusket river, Yarmouth county, N.S.	50,000
Cornwallis river, King's county, N.S.	50,000
Gaspereaux river, King's county, N.S.	50,000
Fells river, King's county, N.S.	50,000
Pennant river, Halifax county, N.S.	50,000
Indian river, Halifax county, N.S.	40,000
Nine Mile river, Halifax county, N.S.	50,000
Sackville river, Halifax county, N.S.	20,000
Annapolis river, Annapolis county, N.S.	50,000
Nictau river, Annapolis county, N.S.	50,000
Milford lakes, Annapolis county, N.S.	50,000
La Have river, Lunenburg county, N.S.	50,000
Petite Riviere, Lunenburg county, N.S.	50,000
Liverpool river, Queen's county, N.S.	40,000
Foster and Croskill lakes, Annapolis county, N.S.	50,000
Total	800,000

SPECKLED TROUT.

Porter's lake, Digby county.	20,000
Phinney's pond, Annapolis county.	5,000
Mink lake, Yarmouth county	20,000
Goshen lake, Guysboro county	10,000
Mill stream, Pictou county.	5,000
Mill lake, Hants county.	20,000
Total.	80,000

About the 1st instant I procured from the Carleton pond about 1,000,000 salmon eggs, and from North Mountain, Annapolis county, 125,000 speckled trout eggs, all of which are looking healthy.

During the past dry summer, while the water was low in the river, I had the dam of the reservoir thoroughly repaired.

Each year shows an increase in the number of salmon in the basin, quite a number were caught in nets during the summer.

At times the water appeared to be alive with them, as many as twenty have been seen at one time jumping out of water.

Ten years ago it was not often that a salmon would be seen jumping out of water in the basin. Artificial fish breeding has proved successful here.

The hatchery has had its customary renovating and cleaning, and is in a good state of repair.

I am sir, your obedient servant,
ALFRED OGDEN,
Officer-in-charge.

9. MARGAREE HATCHERY, NOVA SCOTIA.

N. E. MARGAREE, N.S., November 30, 1905.

Prof. Edward E. PRINCE,
Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour to transmit herewith my annual report *re* the fish-cultural work prosecuted at the Margaree fish hatchery during the past year.

As previously reported, 1,025,000 ova were placed in the incubation troughs during November, 1904, and the results have been highly satisfactory. The resultant fry, vigorous and healthy, numbering 799,500, have been liberated in splendid condition into the following rivers and streams of Cape Breton, namely:—

Distribution of Fry.

N. E. Margaree river, Inverness County.	50,000
Stewart's brook (Margaree river) Inverness Co.	25,000
Big Intervale river (Margaree), Inverness Co.	25,000
Headwaters (N. E. Margaree), Inverness Co.	50,000
Sugar loaf (Margaree), Inverness Co.	25,000
Cranton's ferry (Margaree), Inverness Co.	25,000
Coulavie river, N.E. Margaree river, Inverness Co.	25,000
Hart's (N. E. Margaree), Inverness Co.	5,000
Hatchery brook (N. E. Margaree), Inverness Co.	50,000
Black Rock (N. E. Margaree), Inverness Co.	25,000
Rossville river (N. E. Margaree), Inverness Co.	50,000
S. W. Margaree river, Inverness Co.	25,000
Cheticamp, Little river, Richfield gold mines, Inverness Co.	85,000
Big river, Strathlorne, Inverness Co.	12,500
Headwaters, N. E. Mabou river, Inverness Co.	25,000
Little river, Judique, Inverness Co.	35,000
Middle river, gold mines, Victoria County.	25,000
Baddeck river, Victoria Co.	78,000
North river, St. Anne, N. Victoria Co.	55,000
South river, Ingonish, N. Victoria Co.	50,000
Clyburn river, Ingonish, N. Victoria Co.	54,000
Total.	799,500

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When possible I ascended the rivers as far as I could, reaching the small streams tributary thereto. This took more time and care, but was an improvement in some cases on previous years. The fry for North Victoria, which rivers are furthest from the hatchery, were transported with the assistance of Capt. Fraser's steam tug, of North Sydney, C.B., and as in past years, A. C. Bertram, Esq., inspector of fisheries, accompanied me from Baddeck, C.B., rendering valuable advice and assistance. Capt. Fraser merits our thanks for making this perilous' passage (for the ova) expeditious. The fry reached the rivers almost as vigorous as when placed in the transportation cans. I was requested to liberate a lot into the Mira river, Cape Breton county, and agreeably thereto, towards the close of the distribution period, left the hatchery for the river with 53,000 fry, but owing to a storm that took place when en route, the SS. *Marion* was unable to reach Baddeck and the railroad SS. *Blue Hill*, to make her usual trips, consequently I was forced very reluctantly to liberate the fry intended for Mira river, into Baddeck river. Another year I will have the Mira as well as some other southern rivers, stocked earlier in the season.

Repairs.

During the summer I had the hatchery cleaned and the trays, supply tank, and troughs, varnished with asphaltum, and everything therein placed in first-class condition for a new lot of ova. As instructed, I had a suitable wood-house and ice-house erected, and all the buildings externally renovated with creosote stain. I have had the grounds improved in appearance, several native ornamental trees planted, and the fences improved and painted, thus, to-day the buildings are in first-class shape and on all sides is heard the favourable comments of visitors, sightseers and sportsmen.

General Remarks.

The transportation cans which were never in good condition, are now valueless for another year's work. I was only able to complete the last distribution with them by the liberal use of solder, and even with that they are now of no service. It will be necessary that I have a new lot of cans for next distribution. On the 8th instant, I arrived here from Carleton Pond with 1,072,000 ova, which I placed in the troughs in fair condition. We are at present having the dead eggs removed and otherwise keeping them in condition. If nothing happens I hope to have a larger percentage of fry than last year. Two large freshets took place recently, within a week of each other. The last took place on the 28th instant, and within the memory of the oldest resident was the largest that ever occurred there. The hatchery was surrounded with a seething, turbulent mass of water. At one time we thought we would have to vacate the buildings. We did not, and no harm ensued. I am pleased to report that the terra-cotta pipes that gave so much trouble two years ago, stood the strain to which they were subjected, wonderfully well.

Beyond the loss of some panels of fence the damage amounts to nothing. But we are always in dread of these floods. We will not be safe until the terra-cotta pipe above the stop-house is replaced by iron pipe.

Since twenty years salmon have not been as plentiful in the Margaree salmon pools as during the past summer. From the opening until the close of the season there seldom was a day but the expert angler could land several fish. Generally they were not large, averaging from 8 to 10 lbs., smaller and different in general appearance from the usual run of Margaree salmon. The remark could be freely heard, 'these fish are certainly the product of the hatchery.' I have no doubt that they are. Thus is the benefit resulting from the hatchery already palpable.

All of which is respectfully submitted.

I have the honour to be, sir,

Your obedient servant,

A. G. CARMICHAEL.

10. BAY VIEW LOBSTER HATCHERY, N.S.

Pictou, N.S., July 31, 1905.

Prof. E. E. PRINCE,
Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I beg leave to submit report of operations at Bay View lobster hatchery for the season of 1905.

I commenced operations at this hatchery on May 1. This was a very late, cold spring, and the factories were not able to get their lobster traps set as early as usual, consequently I was unable to collect eggs nor to start the pump till the 16th.

I collected eggs from four factories this year, and had them delivered at the hatchery in fine condition; on June 12 I had all of the jars on both sides of the hatchery completely filled with ova.

The fry appeared first in the tanks on June 25, several days later than previous years, but all of the eggs were hatched out with great success.

155,000,000 were distributed between Pictou island and mainland and around Gull rock. The young fry hatched out so rapidly that some days we had to make two or three trips with them.

Lobsters have been more plentiful this season than they have been for years, and packers and fishermen take a greater interest in this hatchery than ever, which they think is benefiting the industry greatly. Several factories found it difficult to handle their catch of lobsters this year, with the same number of employees that they had in previous years.

There were new tubes put in the boiler this spring, which is now in good repair, but some of the steam connections will have to be renewed before we start next spring, being near the salt water they rust out very quickly.

The covering of the wharf will have to be entirely renewed this fall, the lumber for that purpose is now on the premises.

The hatchery was closed on July 18, having been in operation 77 days.

I have the honour to be, sir,

Your obedient servant,

W. F. HARRIS,
Officer-in-charge.

11. CANSO LOBSTER HATCHERY.

CANSO, N.S., October 23, 1905.

Prof. E. E. PRINCE,
Dominion Commissioner of Fisheries,
Ottawa, Ont.

DEAR SIR,—In submitting to you my first report of operations at the Canso hatchery for the season of 1905, I beg to say that on June 2 I was placed in charge of the hatchery.

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On June 3, we placed the jars on the south side of building, and on the same date we filled 70 jars with ova much of which had been collected several days before.

During July we had considerable trouble with easterly storms which interrupted the fishing and disturbed the water so that our pumps became foul. The last storm on July 24 practically put an end to our operations, and after the necessary cleaning and painting, we closed down.

We hatched about eight millions of young fry and distributed them at the several places from where the ova was collected.

We have placed a new salt water well at the outer end of the wharf, and hope to have no further trouble with storms. By starting early next season, we expect to fill all our jars and put out a much larger quantity of fry.

The fishermen are much interested in the work of the hatchery, and do all they can to help us.

All of which is respectfully submitted.

I am, sir,

Your obedient servant,

JAMES MEAGHER,

Officer-in-charge.

12. RESTIGOUCHE HATCHERY, N.B.

FLAT LANDS (near Campbellton), N.B., November 27, 1905.

Professor E. E. PRINCE,

Dominion Commissioner of Fisheries,

Ottawa.

SIR,—I have the honour to transmit herewith my twenty-fifth annual report upon the operations of the Restigouche hatchery as conducted under my charge. Some 2,756,000 eggs were deposited in the hatchery in the autumn of 1904. The fry hatched from these eggs were deposited in the following rivers, lakes and streams, namely:—

Semi-hatched eggs shipped to Ottawa and British Columbia hatcheries....	150,000
Restigouche river, above hatchery..	1,400,000
Upsalquitch river..	400,000
Matapedia river and lake..	423,000
Lake St. Modeste, River du Loup..	35,000
Campbellton Club lake..	1,000
Parker lake..	2,000
Matamagaw Salmon Club, held over in tanks..	15,000
Held over at hatchery, pond and tanks..	30,000

Distribution of salmon trout and land locked salmon:—

Lake St. Modeste, River du Loup, speckled trout..	15,000
Matapedia lake, salmon trout..	18,000
Campbellton Club lake..	1,000
Parker lake..	2,000
Lily lake..	1,000

Grand total, all kinds.. 2,483,000

Estimated loss during period of incubation and after fry were hatched would reach about 300,000.

In addition to the above distribution of fry, 15,000 fingerling fish which were held over summer in the outside tanks, were distributed in October and planted in the Little Casapedia river, Bonaventure county. All these fish and fry were distributed in a most healthy condition and with the completion of the International Railway, which will give accessibility to the head waters of the Restigouche and its tributaries, large numbers of fry can then be held over in ponds for a few months and turned out in the head waters of the various streams. The government net and W. B. McBeath's licensed net were operated for a short time this season for the capture of stock fish; 175 fish were taken in both stands. As these were extra large and nearly two-thirds female, fully one million of fine eggs were collected and deposited in the hatchery. These were further supplemented by a quota of 750,000 from the Carleton pond, St. John, filling the hatchery almost to its usual capacity.

A Salt Water Pond.

A survey and plan of location, together with various reports having already been laid before your department, it will not be necessary to enter into further details in this report. I might state, however, that in view of the decision of the department, this season in curtailing the time which the government net has usually fished, thereby depriving the hatchery of its full annual supply of stock fish. This, together with the uncertainty of always getting a good supply, and the opposition of the anglers to the net, is why I would strongly recommend that the salt water pond at Belledune be adopted and at once made ready for next season's operations, where a full supply of parent fish, natives of the river, may be secured. The government net at Tide Head is the last or highest net on the river, and the anglers complain and argue that if these fish were allowed to come up to them, they would enjoy the sport of catching some of them, which of course, is quite true. The salt water pond would, on the whole, be the most satisfactory and produce the greatest results, because the fish which would be purchased from the licensed netters for the hatchery now go into the market and are totally lost to the river.

Repairs to Hatchery.

The building outside, also the caretaker's house, out-houses and sheds were thoroughly painted during the summer and all plant cleaned and varnished and made ready for the eggs in the fall. The hatchery with all its appliances is in a good state of preservation and can be operated for many years with very slight repairs. A few fingerling fish are being held over winter in the outside pond which has been covered over with plank and brush to protect from the frost. Owing, however, to the severity of the winter in this section and the great depth the frost penetrates the ground, much difficulty is experienced in keeping the pond intact and regulating the inflow and overflow of the water; the stone wall being subject to the action of the frost, lifts and opens. Another season it will be necessary to line the walls inside with concrete.

The Carleton Pond.

I reached St. John on October 27 and immediately began stripping of the fish in the Carleton pond; the work was continued from day to day up to November 15, by which time all the fish—846 females against 299 males—were gathered from the pond. The male fish were preserved and used a number of times, and the eggs without question were thoroughly vivified, and shipped to the various hatcheries as follow:—

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Gaspé, P.Q., 9 cases	1,160,000
Bedford, N.S., 8 cases	1,000,000
Margaree, C.B., 8 cases	1,056,000
Prince Edward Island, 4 cases	600,000
Grand Falls, N.B., 12 cases	1,640,000
Restigouche, 5 cases	750,000
Magog, P.Q., 1 case	140,000
Ottawa, 1 case	80,000
New Brunswick provincial trout hatchery	40,000
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A total of	6,466,000

Both fish and eggs were in a healthy condition, and I consider Mr. Belyea a pains-taking, good officer.

Ever since the inception of the Carleton pond, I have been convinced it is the proper method of obtaining stock fish, as many hatcheries over the Dominion do not possess the facilities of obtaining parent fish and collecting eggs, and by the purchase of several hundred fish from the harbour fishermen over and above what is required for the stocking of the St. John river hatchery, is not robbing the St. John river as the fishery critic in the public press would lead the public to believe. The facts are that if several hundred of the market fish are purchased from the netters, and their eggs preserved and the parents again returned to the ocean only to be recaptured by the fishermen another year, or should a percentage reach the spawning grounds, it must certainly be a great boon to both the fishermen and the river, and should the present pond be utilized for a dry dock, another pond should at once be constructed.

General Remarks.

In my last annual report, I referred to the general condition of the river. 1904 was an off season with an increased amount of poaching and an unfavourable spawning season, all over the rivers which in years to come will certainly bring forth another poor fishing season. When a poor season or an off year comes round, it is very interesting to hear the theories advanced by the anglers and netters as to the cause. Some claim that porpoises have eaten all the salmon up, or that they have frightened them so badly, even out at the mouth of the Baie des Chaleurs where it is forty miles wide, that the salmon have changed their course and taken to a new river. Other theories are that the ice and high winds have changed the course of the fish, and the anglers say that there are so many nets which act as barriers, the fish get to know them and will not enter the rivers. These are only a few of the theories advanced along these lines. When the fish are two or three weeks later some years than others, in migrating into the rivers, it is because they have had to travel further off the coast and into the ocean in search of food. Again when an off year comes around for the salmon, we must look backward four or five years and discover if possible what agencies have been at work to destroy the crop of eggs or fry, which in all probability would be the true cause of the off year. No doubt many of the two-year old smolt are eaten in the ocean, which would be another cause for the fluctuations. The condition of the rivers this year was just the reverse of last season. Poaching on the Restigouche has been nil, and the run of fish exceptionally large, anglers generally enjoying great sport and making big records. The spawning season has been most favourable. The rivers have kept so low, that the fish were obliged to make their beds in the channels where no injury can come to the nest or eggs by reason of the water receding in winter and leaving them dry, and millions of eggs to perish as was the case last year.

Wherever I have travelled I have heard good reports from districts where the work of fish culture is carried on and fry and fish planted. The St. John river has had the greatest run of salmon the past year ever known in its history. Mr. C. G.

Peters of New York, member and president of the Tobique Salmon Club, told me the club has made the largest catch since its inception twenty years ago, and the fish much larger than usual. He attributes this increase to the work of the hatchery. Also there has been a large number of grilse taken in the main St. John river, a few miles above Fredericton. These were taken with the fly, and the first in the history of the river, which is also attributed to the work of the hatchery.

I have had conversation with many of the club and provincial guardians who say they never in all their service saw so many breeding fish as there were in the Restigouche this fall. I might also attach Mr. R. O'Leary's letter, which was unsolicited. I have no hesitation in saying the salmon sent me by Mr. O'Leary was a Restigouche fish and that a large number of salmon were seen by guardians and others ascending the Restigouche in August, after all the nets were taken out.

Trusting that the foregoing report and the remarks I have felt called upon to make may meet with your approval, I have the honour, to be, sir,

Your obedient servant,

ALEXANDER MOWAT.

The following letter from Mr. O'Leary is appended with some additional notes from the columns of a local journal:—

RICHIBUCTO, N.B., September 11, 1905.

MR. ALEX. MOWAT,

Campbellton, N.B.

DEAR SIR,—During the latter part of our salmon fishing season here, or between the first and 15th of August, we had an unusually large run of salmon, some of our fishermen getting out of a small set of nets upwards of a hundred each day. In one case in particular, one fisherman got 400 salmon in 4 days, and strange to say, that all these salmon bore the distinguishing mark of the Restigouche salmon. The fishermen drew my attention to this, saying that they had never seen this particular species of salmon on this coast before. It at once struck me that this must be the result of the fry which you have been putting out from the Restigouche hatchery, so that I feel that your work has been a great success, and the department, as well as yourself, are certainly deserving of the greatest credit for what has been done, for as it looks to me, these salmon are going to come back year after year to their native waters, and we are all going to get the benefit of them as they go along the coast towards the Restigouche river. Certainly we have had great results this season. So that you may assure yourself that they are Restigouche salmon, I am sending you this morning from our freezer one of them, and I would thank you to let me know whether you are of the same opinion as I am on this point.

Yours very truly,

R. O'LEARY.

The specimen salmon was a young fish, the first year in from the ocean, bearing the star marks, which are very prominent and distinguishable feature in the Restigouche fish.

Large schools of salmon and grilse were seen by the guardian and others in the vicinity of the boom and a few miles higher up, late in August, ascending the river after all the nets were taken out. One man declares he saw 1,000 salmon in one school in the day time. These in all probability would be a part of the same school of fish which travelled so near the Richibucto coast that the fishermen there were enabled to take some of them, just when they were about taking out their nets, thinking the fishing season was over. Mr. O'Leary took 800 of these beautiful salmon into his freezer in the course of a week.

The unanimous verdict of all travelling up and down the river is, that there never was more breeding fish in Restigouche than at the present time. Three and four

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hundred fish can be counted in lots of the pools, and although the rivers were not always favourable for angling through the summer, some great scores were made. One party of two ladies and a gentleman who usually land from 10 to 20 fish in a season, caught 100 this year. One single rod only fishing the pool three hours for a record, succeeded in landing 13 salmon. The anglers are jubilant, and the rivers are receiving better protection than ever before. The pay roll to guardians alone is running into thousands of dollars per month. There has also been wonderful trout fishing on the celebrated Metapedia river, one rod often taking as much as 40 and 50 pounds of sea trout in a day. Quite a large number of American sports with the big purse are after the big game and thousands of dollars will be circulated through the country from this source.

13. MIRAMICHI HATCHERY.

SOUTH ESK, N.B., December 7, 1905.

Prof. EDWD. E. PRINCE,
Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour to submit the annual report upon the operations at this hatchery during the present year, which I am pleased to say have been very successful.

By reference to the report for 1904, it will be seen that the number of salmon ova in the breeding troughs in December of that year was 1,470,000. Deducting 70,000 for loss during the time of hatching and distributing, a balance of 1,400,000 remained to be distributed in the following waters:—

Northwest Miramichi river	450,000
Main southwest Miramichi river.	200,000
Little southwest Miramichi river	400,000
Sevogle river	100,000
Renous river.	100,000
Millstream river.	50,000
Pollet river	40,000
Stewart's brook.	10,000
Other small streams.	50,000
Total.	1,400,000

The fry were planted in first class condition, every shipment being deposited under the personal supervision of an officer from the hatchery. It will be seen that the application of Jas. C. Jordan, Esq., for fry for Pollet river in Westmoreland county, which was received too late last year, was filled this year to the entire satisfaction of that gentleman. All other fry applied for were planted in as good condition and with the same care as that given to those deposited in the main rivers.

After the distribution of fry was completed, the work of repairing all the appliances in connection with the hatchery was performed. The roof of the hatchery was slightly repaired, the dams of the retaining and supply ponds were overhauled and repaired where necessary, the retaining pond was dredged and all the sediment and refuse deposited by the spring freshets were removed. The hatching troughs and traps were also varnished and the hatching room put in the best condition possible for a building which has seen so many years of service. Three new pontoons

for carrying parent fish were also built, and the canoes, scow and nets used in the work of obtaining parent salmon were repaired.

As there has always been considerable uncertainty regarding the procuring of a full supply of parent fish by the methods which have been in vogue since this hatchery was first put in operation, it was thought advisable and authorized by the department, to obtain at least part of the supply from the tidal waters near the hatchery this year. Formerly the supply was obtained by seining the pools on the non-tidal parts of the river. The new plan proved a great success and improvement, over 250 fish being obtained from one stand only a quarter of a mile from the retaining pond during one week's fishing, while formerly under old conditions, sometimes fully a month would be taken up obtaining the same number, over twenty miles from the pond. The difference in cost is very little, but the results are better and much time is saved by the latter method.

The number of fish obtained from the tidal stand was 250. Later on 385 were obtained in the way as in former years. This made a total of 585 fish placed in the retaining pond. Twenty-five were liberated before spawning time, leaving a balance of 560, consisting of 350 females and 210 males. Collection of ova began on October 24, but owing to the lateness of the fish in maturing was not completed until November 15. The total number of ova collected amounted to 2,375,000. On November 16, 650,000 were transferred to the new hatchery at Windsor, Nova Scotia, leaving a balance of 1,725,000 in the breeding troughs here. These ova are at present in first-class condition, and there is every reason to expect a good output of fry next spring.

Owing to the impossibility of getting the services of competent men at the proper time to procure either speckled or sea trout, no ova of these fish could be obtained this year, but next season preparations can be made earlier, and no difficulty is anticipated in procuring a supply of both species.

In conclusion, I may say that everything in connection with this hatchery is in as good condition as possible.

There is a very strong feeling among those interested in the fisheries in this section, that the importance of the salmon fishing industry on these rivers demands a hatchery with much larger capacity than that furnished by the present building.

I may also add that the fishermen and dealers have had an exceptionally successful season this year, and all speak unanimously in favour of fish breeding and its good results.

I am, sir,

Your obedient servant,

ISAAC SHEASGREEN,

Officer-in-charge.

14. ST. JOHN RIVER HATCHERY, N.B.

GRAND FALLS, N.B., November 28, 1905.

Prof. EDWARD E. PRINCE,
Dominion Commissioner of Fisheries,
Ottawa.

SIR,—In compliance with the rules and customs of your office, and in a letter or circular of the 8th instant issued from your department, I most respectfully beg to submit a synopsis of the work performed at the St. John river hatchery under my supervision the present year, 1905.

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In the month of November, 1904, there were laid down in the hatchery trough about 960,000 vivified eggs in fair condition. They did very well during the winter and hatched out a good quantity of live fry in the spring and were planted in the several streams, lakes and rivers that were first approved of by you, as follows, the names of said waters together with the counties being herein given:—

St. Croix river, boundary between Maine and New Brunswick	160,000
Tobique river, Victoria county, N.B.	160,000
Chamcook lake, Charlotte county, N.B.	150,000
Salmon river, Victoria county, N.B.	150,000
St. John river, Victoria county, N.B.	175,000
Small lake near the hatchery	12,000
Total	807,000

As soon as the young fry were all distributed the usual cleaning and varnishing was attended to; during the process of the cleaning of the hatching room it was discovered that the main tank, the floor and sills of the building were in a very unsafe condition, and should undergo a thorough repair. Under these circumstances, I thought it would be my duty and prudent on my part to get a competent mechanic to examine the building and make a report thereon, giving an estimate of the probable cost thereof. He did so, examining the house thoroughly and making an estimate, which I forwarded to your office, with the suggestion that as the season was late it would be better to postpone any action until after the young fry were all distributed in the summer of 1906, that in the meantime, if I was authorized to spend a small sum in making repairs in the hatching room we might get along this winter. I was instructed to do so and the repairs were made, and I am in hopes we will get along this winter, provided we don't get short of water. I don't think I ever saw the brook so low; hard frost and no rain is causing scarcity of water around this country. Any failure in the water supply would be a great pity, as we have the largest quantity of salmon eggs that we ever had in one season before, there were laid down in the troughs about 1,650,000.

The last lot came from the Carleton pond about November 12; the eggs are looking well at present, and we hope to hatch out a good percentage of young fry next spring.

All the foregoing is respectfully submitted.

I am, sir,

Your obedient servant,

CHAS. McCLUSKEY,

Officer-in-charge.

15. SHEMOGUE LOBSTER HATCHERY.

CAPE BALD, N.B., September 23, 1905

Prof. E. E. PRINCE,

Dominion Commissioner of Fisheries,
Ottawa.

SIR,—In submitting to you my third annual report, I beg to say that I commenced operations on May 29, and had a very successful season. We closed on August 12, the hatchery being in operation 76 days.

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During the period we had on different occasions storms which gave us extra work. June 27 and 28 proved to be the most severe, destroying a quantity of lobster gear, so much so, that afterwards we did not get half as many eggs as before. The hatchery on this occasion suffered some loss of eggs which had to be taken back to sea, having become mixed with mud, brought in by our salt-water pump. This difficulty we can not very well remedy, on account of the hatchery being so close to the mouth of the harbour, and as the tide falls the muddy waters run in front of the hatchery on stormy days. Notwithstanding these difficulties, we put out 100,000,000 of good healthy, young lobster fry, and delivered them from Cape Tormentine light (east) to near Cassey cape (west), a distance of about 40 miles. Our two gasoline boats collected the eggs within these limits, and were very successful, much more so than the sail boats of previous years.

The improvements made to the machinery worked well. The 25 horse-power boiler gave perfect satisfaction.

We have also built a dwelling and store room 20 by 24 feet. We have also added to the hatchery a wood well, 8 feet square by 13 deep. This well gave us all of our fresh water this season (the well bored previously proved to be salt water).

The results of our first year's hatching have already been noticed on our fishing grounds—the fishermen after July 25 brought ashore many young lobsters three and four inches long and delivered them to factories; these being no doubt some of our hatchery lobsters, as these were never seen by fishermen so numerous before this season.

I am pleased with the help I have working with me, and would beg of the department not to make any changes as we are looking for further success for the coming season.

I am, sir,

Your obedient servant,

NAP. S. LEBLANC,

Officer in charge of the Shemogue Lobster Hatchery.

16. SHIPPEGAN LOBSTER HATCHERY.

SHIPPEGAN, N.B., November 25, 1905.

Prof. E. E. PRINCE,

Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I beg to submit the following report on the operations conducted at the Shippegan lobster hatchery during the past season.

Practical work was commenced on April 24, when the first eggs were placed in the hatching jars. The distribution of the young lobsters and the refilling of the jars with eggs continued steadily up to July 13, and during this period some one hundred millions of young lobsters were liberated in the Bay Chaleur and the Gulf of St. Lawrence.

The season has been a very successful one, and it is felt by all interested in the fishing business that this institution will be the means of replenishing the lobster fishery on this coast.

I have the honour to be, sir,

Your obedient servant,

SEBASTIEN SAVOY,

Officer-in-charge.

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17. TADOUSSAC HATCHERY, P.Q.

TADOUSSAC November 20, 1905.

Prof. E. E. PRINCE,
Dominion Commissioner of Fisheries,
Ottawa.

SIR,—In accordance with your instructions, I beg to submit my report of the operations at the Tadoussac hatchery for the season 1905. According to last year's report, 1,550,000 salmon fry from the crop of salmon eggs of 1904, were turned out in June and disposed of as follows:—

Ste. Marguerite river, N-east branch.	200,000
Upper Baude river	200,000
Chisholm river.	300,000
A Mars river	100,000
St. John river.	100,000
Little Saguenay river.	100,000
Murray bay river.	75,000
Du Gouffre river.	75,000
Black river.	100,000
Jacques Cartier river	50,000
Mowat's lakes.	250,000
	<hr/>
	1,550,000

The distribution in the Upper Saguenay rivers and in the streams of the county of Charlevoix, has been done by the steamer *Marie Louise*, a good strong boat, the property of Mr. E. Gagnon, a resident of Ste. Anne of Saguenay. In the vicinity of Tadoussac, as usual, the distribution of salmon fry was done by the carters as far as the north-east branch of the Ste. Marguerite river. As soon as the distribution was over, the hatchery has been cleared and all the trays varnished for another season's operations. Our departmental nets of Point Rouge and Bark Cove were set in May for the capture of the parent salmon. 550 salmon were caught and kept in our salmon pond until ready to spawn at the end of October. From that number 340 females gave us 3,500,000 eggs now on the trays in the hatchery. 250,000 (two hundred and fifty thousand) eggs packed in moss, were sent to the Roberval fish hatchery, the property of H. J. Beemer, Esq. The boxes of eggs were sent by the Richelieu Company boat as far as Chicoutimi, and delivered there to the manager of the Roberval hatchery, Mr. Thomas Louis Marcoux.

During the fishing season, but the 550 parent salmon caught for breeding purposes, 150 salmon of smaller size were delivered at the fisheries, and 29 damaged salmon were sent to the Hotel Dieu St. Valier Hospital, by instructions of the department. This fall, at the request of the Ste. Marguerite salmon club, offering to build a house, dam and large outside tank to carry the water for the purpose of having salmon eggs hatched on the northwest branch of the Ste. Marguerite river, the department has approved of the scheme, and have given me instructions to go on with the work by its letter of October 7 last. I have been visiting the river, and found a most suitable site at the Portage river, in the upper part of the Ste. Marguerite river. Six men employed by the Ste. Marguerite salmon club are now working to build a house of 30 by 20 feet with a lodging for the caretaker of the salmon eggs for the months of April, May and June.

I have bought 24 troughs, being now varnished and painted with two coats, to have them ready to be transported on the spot on the snow roads, and as soon as the building will be ready, I will go to instal the troughs and the iron tube from the outside tank to the building. I have no doubt, it will be profitable to the St. Marguerite river, our finest salmon river, and the little money spent by the department to organize such a hatchery will be fully repaid by the increase of salmon in the river. The salmon fly-fishing has been splendid in all the salmon rivers this season, and they are well stocked with parent salmon by reports of proprietors and guardians of salmon rivers. The net fishermen have also been doing well. On good authority I have been informed that two sea salmon weighing 15 and 18 pounds have been caught for the first year in Peribonca river, showing the good result of my first planting of salmon fry in the Lake St. John in 1897, and some have been caught also in nets set in the Lake St. John by report to me by Mr. Thomas L. Marcoux, the manager of the Roberval hatchery. I have to report that we will have to abandon the planting of salmon fry in the Mowat lakes and Thomas lakes. The public road passing by those lakes has been changed this fall. Instead of planting the salmon fry in Thomas lake for the Long and Gobeil lakes, we will go directly by the new road to Long lake. The Quebec government has leased six lakes to the Richelieu and Ontario Navigation Company for the benefit of the Tadoussac Hotel, their property, and between those lakes are the Long and Gobeil lakes, where we have been planting salmon fry for three consecutive years. None have been planted this season on account of the road being impassable. I do not see any objection to continue to plant some more salmon fry in the Long and Gobeil lakes, so well adapted for the rearing of young salmon, by the quantity of fresh water smelts found in them. The lakes leased by the Richelieu and Ontario Navigation Company will be closed to the public and only fished during six weeks by boarders at the Tadoussac Hotel. One guardian of the Mowat lakes could be removed to Gobeil's lake. It is not the fly-fishing to fear, but the floating lines and the seining, especially in the Gobeil lake, having so fine a sandy and gravelly bottom. I have seen this summer two young salmon caught in Long lake, three years old, 16 inches long, fine and fat. We require 250 new trays for the breeding room for next season, and I hope to receive them early enough next summer to have time to give the new trays two coats of varnish. We also require two large wooden tanks for the spawning time. The want of more tanks has been the cause of losing five salmon kept in the boxes in the pond. By instructions of the engineer of the Department of Public Works the walk on trestles from the spawning house to the kiosk in the middle of the salmon pond so badly damaged by ice last winter, and exposed to be lost, has been taken down to save the greatest part of the materials. I expect that the repairs to the second dam of the hatchery lake, authorized first, and postponed for another year, will be executed next season. It is the only means of keeping a good supply of water for the hatchery. Our building is always in the same dangerous state in the winter storms, as the matter has been verified this summer by the Hon. Minister of Marine and Fisheries during his visit to Tadoussac. Something will have to be done to prevent accidents.

I have the honour to be, sir,

Your obedient servant,

L. N. CATELLIER,

Officer-in-charge.

18. GASPE HATCHERY.

GASPÉ, December 9, 1905.

Prof. E. E. PRINCE,
Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour to submit my annual report upon the work of the Gaspé fish hatchery during the past year.

As stated in my last report of December 6, 1904, I laid in the troughs on November 4 about 1,250,000 eggs, and all turned out well with the exception of a few trays in one case where there was considerable loss. All the rest did first class, and I am pleased to say I had for distribution last spring about 1,100,000 fry in a good healthy state, and distributed them as near as possible equally between the following rivers: Dartmouth, York and St. John (Douglastown).

Having no orders from your department, I took no fry to the Grand river.

With your consent my assistant went to St. John, N.B. on October 26 last, and obtained my quota of eggs, nine cases, and reached here on November 5, and the same day we placed them in the troughs in good order. And I hope with the usual good luck of the hatchery will turn out well.

I have the honour to be, sir,

Your obedient servant,

R. LINDSAY,
Officer-in-charge.

19. MAGOG HATCHERY, P.Q.

MAGOG, August 31, 1905.

Prof. E. E. PRINCE,
Dominion Commissioner of Fisheries,
Ottawa, Ont.

SIR,—I beg to submit my annual report of the operations at Magog hatchery for the season of 1905.

The following schedule will show the points of distribution, also the numbers and kinds of fry planted in each locality last spring:—

Salmon trout.

East lake.	30,000
Lake Volet	35,000
Lake Dubi.	20,000
Davidson lake.	25,000
Chateauguay river.	20,000
Lake William.	30,000
Lake Lester.	150,000
Lake St. Hubert.	10,000
Lake St. Francois Xavier de Brompton	5,000

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Upper Magaguadavic lakes.....	25,000
Lake Memphremagog.....	100,000
Lake Scaswananijus.....	25,000
Lake Massawippi.....	50,000
Lake Brompton	25,000
Lake Brome.....	50,000
Key pond.....	25,000
Lake Orford.....	50,000
Smooth pond.....	25,000
Total.....	700,000

Speckled Trout.

Long Pond.....	5,000
Ponds of Cookshire Fish Club.....	10,000
Canton lake.....	5,000
Beecher lake.....	20,000
Lake Superieur.....	5,000
Seark's brook and pond.....	3,000
Lake St. Hubert.....	5,000
River du Loup.....	5,000
Total.....	58,000

Grey Trout.

Bonallie lake.....	25,000
Lake Lester.....	85,000
Lake Memphramagog.....	150,000
Total.....	260,000

Ouananiche.

Lake Lester.....	10,000
Orford lake.....	5,000
Lake Memphramagog.....	5,000
Total.....	20,000

Atlantic Salmon.

Lake Lester.....	30,000
Lake Memphramagog.....	10,000
Lake Massawippi.....	10,000
Lake Brome.....	5,000
Orford Lake.....	5,000
Total.....	60,000
Grand total of fry.....	1,098,000

I beg to inform you that the fry were all deposited in the different waters mentioned above in the very best condition.

I have the honour to be, sir,

Your obedient servant,

A. L. DESEVE,

Officer-in-charge.

20. ST. ALEXIS HATCHERY, P.Q.

ST. ALEXIS, December 1, 1905.

Prof. E. E. PRINCE,
Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour to make the following report on the work performed at the St. Alexis hatchery during the past season.

This establishment is devoted largely to the hatching of speckled trout, and the season was commenced with four hundred thousand eggs in the hatchery, one hundred thousand of which were conveyed in an eyed condition to other establishments.

It might be stated that the lakes in this vicinity are well stocked with trout, but very difficult of approach, and it is necessary after having secured a quantity of eggs to transport them long distances by hand over a very rough trail.

The fry were distributed in the following waters:—

	Speckled Trout.
Lac des Sables	20,000
Lac la Truite	30,000
Lac Vierge	10,000
Lac Sans Bout	25,000
Lac Caribou	25,000
Lac Sorcier	25,000
Lac Bonnetterre	25,000
Lac Bluets	25,000
Lac Willey	25,000
Lac Anidcher	13,000
Chain of three lakes—	
First lake	25,000
Second lake	25,000
Lake Croche	25,000
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	298,000

In addition to the above, about one hundred thousand ouananiche and salmon eggs were hatched in this establishment and distributed in lakes in the surrounding district.

The hatchery is in first class condition, and the work of incubation is now proceeding, preparatory to the distribution of fry in the coming spring.

I have the honour to be, sir,

Your obedient servant,

JOSEPH ELLIOTT,

Officer-in-charge.

21. MONT-TREMBLANT HATCHERY, P.Q.

MONT-TREMBLANT, August 23, 1905.

Prof. E. E. PRINCE,
Dominion Commissioner of Fisheries,
Ottawa, Ont.

SIR,—Herewith I beg to report on the season's operations carried on at the Mont-Tremblant hatchery during the season of 1904-05.

In November 600,000 salmon trout eggs were successfully laid down in the incubating troughs of this hatchery. These eggs matured and hatched out in the month of May strong and healthy, with but very slight loss during the season of operation.

Following is a list of lakes stocked from this hatchery, showing the number planted in each case:—

Lake Charlebois	50,000
Lake Masson	50,000
Lake Noir	50,000
Lake Pilon	50,000
Lake Claire	50,000
Lake Beattie	50,000
Lake Sarrazin	50,000
Lake Gregoire	50,000
Lake Morrison	50,000
Lake Bibitte	15,000
Lake Jarvais	15,000
Lake Trout	15,000
Lake Tremblant	75,000

Total number distributed 570,000

In conclusion I would report the hatchery in first-class repair for next season's operations.

I have the honour to be, sir,

Your obedient servant,

STANFORD WALKER.

22. LAKE LESTER REARING PONDS.

BALDWIN'S MILLS, QUEBEC, November 13, 1905.

Professor E. E. PRINCE,
Dominion Commissioner of Fisheries,
Ottawa.

DEAR SIR,—I beg leave to submit my annual report.

During the spring months I received two hundred and sixty thousand 'fry' (260,000), principally salmon trout.

They were put into large tanks and fed on ground liver. The loss was not over five per cent in rearing them to three and a half inches in length.

October 15th one hundred and fifty thousand were distributed to the different ponds and lakes. There are now 100,000 in tanks, which will be wintered; also 800 speckled trout, two years old.

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Owing to the great abundance of spring and pond water, I trust your department will complete the 'hatchery building' another year, so that in the future we may be able to hatch and grow a large number of the 'fingerlings' for distribution to the surrounding bodies of water. There is no doubt about the advisability of caring for the fry until they are four to six months old and three to four inches long.

Your humble servant,

W. G. BELKNAP,

Officer-in-charge.

23. NEWCASTLE HATCHERY, Ont.

NEWCASTLE, November 21, 1905.

Prof. E. E. PRINCE,

Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour herewith to submit a report of the fish cultural operations carried on at this hatchery during the past year.

The following schedule will show the points of distribution, also the number and kinds of fry placed in each locality last spring.

Salmon Trout.

Lake Ontario, Hamilton	50,000
“ Toronto	50,000
“ Whitby	50,000
“ Cobourg	50,000
“ Kingston	50,000
“ Consecon	50,000
“ Picton	50,000
Lake Huron, Goderich	50,000
“ Southampton	50,000
Georgian bay, Wiarton	75,000
“ Meaford	75,000
“ Collingwood	75,000
Lake Simcoe, Barrie	25,000
Lake Couchiching, Orillia	25,000
Bay Quinte, Picton	75,000
“ Railway, Napanee	50,000
Charleston lake	50,000
Burnt river	50,000
Bay Quinte, Belleville	75,000
Lake on the Mountain, Glenora	50,000
Rideau lake, Portland	50,000
“ Westport	50,000
Lakes at Haliburton	25,000
“ Thousand Islands	25,000
Myers lake, Brampton	25,000
Lake Erie, Cedar Springs	50,000
Lakes at Kearney	25,000
Speckled trout, Meaford	2,500
“ Seaforth	2,500
Lake Ontario, Newcastle	50,000
Total	1,480,000

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I beg to inform you that the fry were all deposited in the different waters in the very best condition.

We also placed a number of parent bass in our pond here, but failed to raise any young bass this season.

Our hatchery is in splendid repair, and we hope to have a prosperous season for the fall and spring of 1905 and 1906.

I have the honour to be, sir,

Your obedient servant,

WM. ARMSTRONG,
Officer-in-charge.

24. SANDWICH HATCHERY.

SANDWICH, ONT., December 5, 1905.

Professor E. E. PRINCE,
Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I beg to submit the following report upon the operations at this hatchery during the past year.

According to last year's report, this hatchery contained 100,000,000 whitefish eggs from which were turned out 80,000,000 young fry, which were disposed of as follows:

Point Edward, Lake Huron.....	4,000,000
Peach Island, Detroit river	2,000,000
Fighting Island, Detroit river.....	4,000,000
In bay below Fighting Island.....	4,000,000
Stony Island, Detroit river	4,000,000
Bois Blanc Island, Detroit river	7,000,000
In lake below Bois Blanc Island.....	6,000,000
Pigeon Bay, Lake Erie.....	6,000,000
Bar Point, Lake Erie.....	3,000,000
Colchester, Lake Erie.....	2,000,000
Kingsville, Lake Erie.....	1,000,000
Leamington, Lake Erie.....	1,000,000
Rondeau, Lake Erie.....	1,000,000
Port Stanley, Lake Erie.....	1,000,000
Hamilton, Lake Ontario.....	1,000,000
Niagara, Lake Ontario.....	1,000,000
Toronto, Lake Ontario.....	1,000,000
Belleville, Bay of Quinte.....	1,000,000
In river at hatchery.....	30,000,000

Grand total..... 80,000,000

The young fry were liberated in the above waters in first class condition.

Collecting Pickerel Eggs.

After having cleared the hatchery of the whitefish, preparations were made for the reception of the pickerel (doré) eggs which were collected from the pound nets in Lake Huron and Hitchcock's ground, Point Edward. The number of eggs secured was

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50,000,000, from which were turned out 26,000,000 of young fry, which were placed in the following waters:—

Lake Huron..	5,000,000
Mississippi river, Perth, Ont	1,000,000
Belmont lake, Havelock, Ont...	1,000,000
Round lake, Havelock, Ont.	1,000,000
Detroit river..	18,000,000

Grand total.. 26,000,000

This fall we have secured and laid in the hatchery 75,000,000 whitefish eggs which are in good condition.

Catch of Fish.

The catch of fish in the Detroit river has not been as good as other years, owing to the rough weather, and I also think that the blasting and dredging at Amherstburg (which is just at the mouth of Lake Erie) has had a tendency to prevent the fish from coming into the river from the lake this fall. It has destroyed a good many whitefish as several have been picked up on the shore in that vicinity, some of them in pieces which has evidently been done by the blasts. I myself can state that many of the fish which were caught by us this fall were cut and otherwise bruised.

Repairs.

New water boxes and conveying pipes have been placed in the hatchery, and the interior of the building painted.

I have the honour to be, sir,

Your obedient servant,

WM. PARKER,

Officer-in-charge.

25. OTTAWA HATCHERY.

OTTAWA, September 1, 1905.

Professor E. E. PRINCE,
Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour to submit the annual report on the operations carried on at the Ottawa hatchery during the season of 1904-05.

The following eggs were received at this establishment during the fall of 1904:—

Sockeye salmon eggs..	5,000
Brook trout eggs..	80,000
Ouananiche eggs..	100,000
Salmon trout eggs....	1,000,000
Atlantic salmon eggs..	400,000

All these eggs were kept in the hatching troughs until the end of March, when a certain number of the eyed eggs were sent to different hatcheries, and the balance left was successfully hatched out in the Ottawa hatchery and the fry distributed during the months of May and June in the following waters:—

Distribution of Salmon Trout.

Spectacle lake..	20,000
Barry's lake..	20,000
Norwood lake..	15,000
St. Sixte..	25,000
Lady's lake..	20,000
Echo Beach lake..	20,000
Thouin lake..	20,000
Seventh lake..	20,000
Ricard lake..	20,000
St. Esprit lake..	25,000
Rock lake..	40,000
Victoria lake..	30,000
Garvey lake..	20,000
Moose lake..	25,000
Finlay lake..	25,000
Birch lake..	25,000
Blue Sea lake..	25,000
Sharbot lake..	30,000
Otter and Bass lake..	25,000
Pemichougan and 31-mile lake..	25,000
Little Whitefish lake..	15,000
Farrel's lake..	25,000
Clear lake..	25,000
Plumb lake..	20,000
Charleston lake..	20,000
View and McGraw lakes..	30,000
Cecebe and Ahmic lakes..	15,000
3-mile lake..	15,000
Beauport lake..	25,000
St. Eustache lake..	25,000
River Chambly..	15,000
Rideau lake..	15,000
Christie lake..	5,000
Wonish lake..	25,000
Bark river, eyed eggs..	10,000
Flat-lands, eyed eggs..	20,000
<hr/>	
780,000	

Speckled Trout.

Two ponds, Norwood..	3,000
Echo Beach lake..	3,000
Bark lake..	3,000
Seventh lake..	3,000
Ricard lake..	3,000
Thouin lake..	3,000
Newcastle hatchery, about..	10,000
Flat lands eyed eggs..	20,000
Magog hatchery..	30,000
<hr/>	
78,000	

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<i>Atlantic Salmon.</i>	
Bark river hatchery	25,000
Plumb lake	10,000
Charleson lake	10,000
Ceebe and Alhmic lake	10,000
Three Miles lake	10,000
River Chambly	10,000
Rideau river	5,000
Christie lake	5,000
Magog lake	5,000
Magog hatchery eyed eggs	60,000
	<hr/>
	150,000
<i>Ouananiche.</i>	
Little White Fish lake	15,000
Rideau river	5,000
Christie lake	5,000
Otter lake	10,000
Magog lake	10,000
Jacques lake	10,000
Bark river eyed eggs	20,000
Magog hatchery	20,000
	<hr/>
	95,000
<i>Total Distribution.</i>	
Salmon trout	780,000
Atlantic salmon	150,000
Ouananiche	95,000
Speckled trout	78,000
	<hr/>
	1,103,000

The hatchery has been repainted and everything is in good order for the next season's operations.

I remain, sir,

Your obedient servant,

JOHN WALKER,

Officer-in-charge of Ottawa Hatchery.

26. SELKIRK HATCHERY, MANITOBA.

SELKIRK, July 24, 1905.

Prof. E. E. PRINCE,
Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour to submit the following report of operations conducted at the Whitefish hatchery located at Selkirk, Manitoba, for the season of 1904-05.

In September, 1904, preparations were made with a view of filling the hatchery with eggs, and on October 5 a start was made from Selkirk for the spawning grounds at the northern end of Lake Winnipeg. In due course the gill-nets were set and suffi-

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cient fish were captured to yield thirty millions of eggs which were safely deposited in the hatchery.

After the usual period of incubation, the fry appeared, and over twenty-five millions of young whitefish were liberated in a healthy and thriving condition in the waters of the Red river. After a successful season, the hatchery was closed on April 30.

During the autumn of 1904, the building was placed in a thorough state of repair. The grounds surrounding the hatchery have been planted with shrubs and trees, and tastefully constructed flower beds add much to the appearance of this useful establishment.

Owing to the increased duties devolving upon me as Inspector of Fisheries for Manitoba, the superintendence of the Selkirk hatchery has been transferred to Mr. Frank Hooker, of Selkirk, and to whom I am ready and willing at any time to render such advice and assistance as I am able to give, gained from an experience of five years' active work as officer-in-charge of this establishment.

I have the honour to be, sir,

Your obedient servant,

W. S. YOUNG,

Officer-in-charge.

27. BLOCK HOUSE POINT HATCHERY.

CHARLOTTETOWN, P.E.I., August 8, 1905.

Prof. E. E. PRINCE,

Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I beg to submit my report of operations at Block House hatchery, P.E.I., for the past season. I took charge on February 14 last. On May 9 had suction pipe laid and wharf repaired and all connections made ready for work. On May 13 the first lobsters were caught from which we got the spawn, and collected regularly every day that it was fit for the tug to go out. I am sorry to say the catch was very small on the south shore, so much so that a great many of the factories closed down on June 25, so I had to go as far as Cape Traverse for the rest of the season. One hundred million lobsters have been successfully hatched and distributed between Block House Point and Cape Traverse. We have just finished taking in the suction pipe and trestle work. Everything about the hatchery is in good order.

I am, sir,

Your obedient servant,

A. W. HOLROYD.

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ANNEX C.

REPORT ON OYSTER CULTURE BY THE DEPARTMENT'S EXPERT FOR
THE SEASON OF

1905.

CHARLOTTETOWN, P.E.I., December, 1905.

Professor E. E. PRINCE,
Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour to submit to you my annual report on oyster culture of last season's work in British Columbia and New Brunswick.

Just as navigation opened last spring I received instructions from your department to obtain a quantity of suitable oysters for transplanting purposes to be sent with a consignment of live lobsters to be transplanted in Pacific waters, with instructions to take charge of them in transit across the continent and deposit them on arrival in the waters of British Columbia. I obtained fifty-seven barrels of small hardy oysters, averaging from 2,000 to 2,300 to the barrel, from the shores of Ram Island, Richmond Bay, P.E.I. Mr. Dan Forbes, of Tyne Valley, assisted in obtaining and superintended the packing and shipping of them; they left Port Hill station in good condition on June 3. I left Summerside with them for Halifax on the 5th instant, and on the 6th met Inspector Hockin, who was obtaining lobsters from Messrs. M. Neville & Co., of Halifax. The lobsters were caught and plugged on the 7th and remained in water in floating cars at their wharf until about 4.30 a.m., of the 8th instant, when they were counted, 1,025 in number, and packed in boxes and patent carriers, iced around the sides and covered with rockweed. They were then conveyed to the railway station and shipped on a Dominion express car (No. 1977) which was placed at the department's disposal by the company for the trip across the continent, the oysters and ice having been previously placed on board the car. The train left Halifax at 8.10 a.m. Thursday, June 8, arriving at Vancouver, B.C., on the following Tuesday evening the 13th at 7.30 p.m., being on time the whole way out. Each day during the run across the continent, ice was supplied at different points as required, and I must say that I found the officials during the whole journey very obliging and accommodating in every respect. The weather was very cool on leaving Halifax, but the temperature rose fast as I sped westward, and did all I could to keep the car cool. The following are the temperatures recorded during the trip, the thermometer was placed in the centre of the car on a crate of lobsters and remained in the same position during the whole journey.

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		Temperature.	
		Fahrenheit.	
1905.			
June	8, 8.30 a.m.	45°	
"	8, 12.00 noon	47°	
"	8, 3.00 p.m.	48°	
"	8, 7.30 "	45°	
"	9, 6.00 a.m.	45°	
"	9, 10.00 "	58°	
"	9, 1.15 p.m.	65°	
"	9, 6.00 "	58°	
"	9, 9.00 "	56°	
"	10, 8.00 a.m.	50°	
"	10, 1.00 p.m.	55°	
"	10, 3.00 "	57°	
"	10, 6.00 "	50°	
"	10, 10.00 "	50°	
"	11, 6.30 a.m.	47°	
"	11, 10.00 "	58°	
"	11, 1.00 p.m.	65°	
"	11, 3.00 "	67°	
"	11, 8.30 "	62°	
"	12, 6.30 a.m.	53°	
"	12, 10.00 "	63°	
"	12, 11.30 "	67°	
"	12, 1.30 p.m.	69°	
"	12, 4.00 "	63°	
"	12, 5.00 "	60°	
"	12, 6.00 "	56°	
"	12, 9.00 "	50°	
"	13, 6.00 a.m.	50°	
"	13, 11.00 "	60°	
"	13, 1.00 p.m.	63°	
"	13, 4.30 "	60°	
"	13, 7.30 "	59°	

The lobsters were splendid samples, well selected and varying from 10 to 12 inches in length, and in excellent condition, one barrel containing berried lobsters. They were packed in 12 square crates or boxes containing 590, and 11 patent carriers containing 435, or a total of 1,025 lobsters, 50 being the average in boxes and 40 in the patent carriers, the former were iced on the top, while the latter were barrel-shaped standing on end and having a space of about three inches all round the inside of barrel, separated by wire netting which was filled with ice and lobsters placed in the centre and covered over with rockweed and a wooden lid. I must say the lobsters were conveyed in the patent cases with marked success, scarcely a dead one to be found in the whole case. Those in the boxes showed signs of weakness on Sunday, and while examining them I removed several of the stronger ones to the patent carriers and found they held their strength, while those in the boxes arrived in a weak condition, those in the carriers were too strong to allow me to remove the plugs from their claws until we were ready to deposit them in the water, or they would have crushed each other.

While removing the plugs, I noticed the lobsters bled, and conveying them to such a distance, I do not approve of the system of plugging for transplanting purposes, as they require all the strength they can hold, it may be all right for commercial purposes, but when they are to be liberated, I consider it would be better to tie the claws as it is done in Normandy, Belgium, &c., it cannot be so injurious to the fish.

On my arrival in Vancouver I was met by Inspectors Sword and Taylor. I asked them how soon I could transfer the lobsters to the water; they said the C. G. ss.

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Georgia was ready at the wharf, the lobsters in the boxes were immediately transferred on board, all the plugs having been removed, and at 7.55 p.m. we left the wharf, 25 minutes after my arrival, and deposited them in a bay just above the Second Narrows on the south side of Burrard inlet, about 5 miles above Vancouver, the bottom consisting of rocks and kelp.

After returning to Vancouver, the lobsters which were packed in the patent carriers were transferred from the car and 3 were placed on the *Georgia* and 8 on the ss. *Lapwing*; both steamers left the wharf at 11.30 p.m. The *Lapwing*, with Mr. Matheson in charge, deposited 3 barrels and 15 berried lobsters in False Narrows on the east side of Gabriola island by 9 o'clock the following morning, and 4 barrels and the balance of the berried lobsters in Nanoose bay by 5 p.m. same day, 14th inst., while I remained on board the *Georgia* and planted 1 barrel and 3 berried lobsters in Secret cove, Sechart peninsula, at 3.30 a.m. 1 barrel and 3 berried lobsters in Long bay, southeast corner of Gambier island, and the remaining barrel and 3 berried lobsters in Snug cove, east side of Bowen island, returning to Vancouver about noon.

It was the wish of Inspector Taylor to place some lobsters in Barclay sound, or other suitable localities on the west coast of Vancouver island, but when he informed me it would take about 48 hours to convey them from Vancouver I objected, as they had arrived in fairly good condition, and I was anxious to have them placed in the water without further loss of time, which was done.

Should the department entertain the idea of shipping any further consignments of live lobsters I would respectfully recommend the patent carriers to be used instead of the boxes, unless some arrangement could be made to partition each other in a separate cell with space to ice up at the sides and thus avoid plugging the claws of the lobsters. Also to arrange with the officials on the Pacific coast to have either floating cars or some inexpensive inclosure made, where the lobsters could be placed in the water to recuperate and be fed after their journey, to be taken up again for further transshipment on the west coast of Vancouver island, or such place or places as the department or their officials might suggest. The lobsters were deposited in the water at the above named places and liberated, and it is not yet possible to report any further results as to what became of them as they are of a migratory disposition.

Having disposed of the lobsters, I was informed the oysters would be distributed over a wide area, so we took them on a scow the same afternoon and towed them to a suitable place on the north side of Burrard inlet about 7 miles above Vancouver, and deposited them just above low water mark, leaving a watchman in charge, as I could see it was advisable to give them cool water after their journey. I asked the officers to advise me of the different kinds of bottom to be met with, also informing them of the bottom I required, and after I had made a very careful examination of the different areas, they were conveyed by the *Georgia* and planted as follows:—

June 15—Deep bay, Bowen island, Howe sound.	2 sacks.
“ 15—Long bay, Gambier island, Howe sound.	4 “
“ 15—Mainland, north of Gibson's, Howe sound.	2 “
“ 15—Mainland, 1 mile further north, Howe sound.	2 “
“ 16—Secret cove.	2 “
“ 21—Ganges harbour, Salt Spring island, 2 places.	6 “
“ 21—Union bay, Saanish inlet	4 “
“ 22—Oyster harbour.	2 “
“ 24—Hammond bay, north of Departure bay.	5 “
“ 24—Nanoose harbour.	10 “
“ 24—Deep bay.	6 “
“ 26—Carrington bay, Valdez island.	7 “
“ 26—Salt lagoon, head of Carrington bay.	4 “
“ 27—Lund.	1 “

Total. 57 sacks.

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Fishery Officer Burtwell planted the following:—

July 4—In bay west of Roche's Point, north shore of
Burrard inlet. 3 sacks.
" 4—English bay, $\frac{1}{2}$ mile west of Green's beach. 2 "

On July 4 we left Vancouver in the cruiser *Kestrel* to plant the remainder of the oysters on the west coast of Vancouver island; on the 7th, 8 sacks of oysters were laid at the head of Hardy bay, where a stream empties itself on a gravelly and shelly bottom, and to all appearances a very suitable locality.

On the 8th inst. arrived at Quatsino and laid four sacks oysters at the head of Winter harbour, at the mouth of a small stream, and two sacks further up. The remainder of the oysters we had on board *Kestrel* were also laid just above low water mark, as Captain Newcombe wished to return to Vancouver with the American schooner *North* in tow, which he seized on our way in, Inspector Taylor and myself returning in the *Kestrel* to Vancouver.

On our arrival in Vancouver, Captain Newcombe wished us to wait until after the trial of the schooner *North*, when he thought he would be able to continue our trip and finish planting the remainder of the oysters, but his instructions were to report to Esquimalt for drill, so other arrangements were made to remove the oysters from Quatsino to Barclay sound, but as the coasting steamer *Queen City* did not leave before August 7, I arranged to visit one or two areas I had previously planted, so on August 2 I went to Ladysmith on board the *Georgia*, and visited the area leased by Mr. Page at Oyster Harbour, and found the oysters I had planted in a very healthy condition and growing very rapidly, having grown about $\frac{3}{4}$ of an inch since June 22, that being the date when they were first laid down. On the following day I arrived at Nanoose bay and found the oysters had even grown more than at Oyster harbour, the new growth averaged about an inch all round, and some measured an inch and an eighth; these were planted on June 24. I opened two oysters here and found one in a fair condition and a little dark, the other was very white and full of spawn.

On August 7, I left Victoria in the *Queen City* for Quatsino, and obtained the oysters laid there and brought them to Uchucklesit, arriving there on the 12th inst., and planted them in the following localities from one of the cannery boats:—

	Sacks.
August 15, Uchucklesit.	4
" 15, Namint, Alberni canal.	7
" 15, Granite creek, Alberni canal.	5
" 15, Coleman creek, Alberni canal	4
" 15, Green Cove, Alberni canal	1
" 16, Head of Pipestem inlet	11
" 16, Toquart	2
" 17, Coleman creek, Alberni canal	2
" 17, Goose creek, Alberni canal.	1
Total.	37

This completed the planting of the oysters, which are summarized as follows:—

	Sacks.
By C.G.S. <i>Georgia</i>	57
Self and Inspector Taylor at Sooke Inlet.	8
Fishery Officer Burtwell.	5
C.G.S. <i>Kestrel</i>	14
Uchucklesit cannery steamer.	37
Total.	121

About two sacks averaged one barrel.

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While examining the above areas I occasionally took the temperature and salinity of the water which read as follows from the different instruments:—

	Temp.	Salinity.
June 16—Secret cove, Welcome pass....	65°	14°
“ 21—Union bay, Saanage arm..	59°	22°
“ 23—Nanaimo..	64°	20°
“ 24—Nanoose bay..	66°	19½°
“ 24—Deep bay..	63°	21°
“ Sooke inlet ..	64°	22°
July 6—Hardy bay..	65°	18°
“ 7—Bull bay..		26°
“ 8—Quatsino..	58°	23°
“ 15—Uchucklesit..	59°	17°
“ 17—Alberni canal..	64°	11°

After finishing planting the oysters we proceeded to Alberni and awaited the stage coach to Nanaimo, leaving there the following day for the east, and on my return reported myself for duty in Ottawa, arriving in Charlottetown on September 5.

The Ostrea.

During my absence from the lower provinces the *Ostrea* was left in charge of Inspector Matheson, and she was engaged in the protection of lobsters, both before the season commenced and after the close of same. The steamer was also used by Inspector Chapman of Moncton, who was investigating matter relating to the oyster and clam industries at Shediac, Buctouche and Cocagne.

Caraquet, N.B.

After my arrival in Charlottetown I again took charge of the *Ostrea*, and after coaling, watering and provisioning steamer, left on September 11 for Caraquette, arriving there on the 15th instant, on the following day prepared for work and placed stakes around the area to be worked on. Commenced work on above area on the following Monday, the 18th instant, and continued raking the grounds and removing the eel-grass, cleaning up the ground generally on the southern half of the oyster beds. Two years ago I was engaged in cleaning the northern half of the area, and it was gratifying to learn that the fishing had greatly improved since my first visit to Caraquette, in fact one gentleman informed me that, to use his own words, ‘there were fifteen times as many oysters caught this season as there were two years ago,’ but I regret there are so many small ones removed from the beds by the fishermen; they will not wait until they are fully grown. The small ones on the northern part appear to be numerous, but the southern area seems to be nearly all covered over with eel-grass, which requires a lot of work to remove, and the oysters are scarce. As the season advanced the weather became very unsettled and although my work is not completed, I was compelled to give up for the above reason. I left Caraquette on October 23, arriving at Charlottetown on the following night. The weather was very wild after by return, and after waiting for a finer prospect found it impossible and too late to do any more work efficiently this season, so removed the gear and spars from steamer and made arrangements to have her hauled out of the water and placed in winter quarters, which was done on November 20.

Quahogs or Hard Shell Clams.

These bivalves should receive the department’s attention by protecting them from extinction; there has been for the past few years an increased demand for them until they are now showing signs of giving out. Thousands of barrels have been shipped

to the United States each year, bringing in a large revenue to our fishermen. Up to the present time there has been no protection for them whatever; if the demand continues much longer, as there is every appearance of its doing, it will exceed the supply, and the sooner some action is taken in this matter the better it will be for both oysters and clams, as the latter are found on both live and dead oyster-beds, and it is exceedingly dangerous to oyster-beds to have them raked over by the clam fishermen during the spawning season. The hard shell clam burrows on an oyster bed, while the soft shell clam is found in sand and mud at about low water mark; the latter is used chiefly for bait, while the former is used exclusively for edible purposes, and this is the kind we have chiefly to deal with.

Clams have been fairly numerous and the fishermen have been making good wages, while in other cases they have had to look for fresh fields to carry on their work, consequently there is already a sign of scarcity upon some of the beds, and it is now time to establish regulations for their protection before the beds become depleted.

I would respectfully suggest that the same close time for clams (quahogs) be established, as oysters, viz., from May 23 to September 23, as both species grow on the same area, consequently the oyster areas must certainly suffer by being constantly raked and disturbed when these grounds should be left in a perfectly quiet condition.

In the United States there is, I believe, a close season for clams from June to September, and I do not think it is fair to our fishermen to allow our beds to become exhausted simply to supply the United States markets, while they will not allow their own beds to be touched, which consequently shows that our beds need just as much protection as theirs to save the clams from extermination. These fish are caught from our beds, entirely for the American market from early spring until late in the fall.

Oyster Barrels.

In my last year's report, I pointed out to the department the necessity of fixing a standard size for the shipment of oysters to market, but up to the present date have not heard of any definite steps being taken, and I feel this matter should receive the department's serious and immediate attention.

The ordinary flour barrel has been used for years in the shipment of oysters, and is the most accessible; it is also a standard size in itself; the dimensions are about as follows: Seventeen inches diameter top and bottom with two inches bilge, and twenty-five inches deep on the inside, and to contain nothing less than ten pecks. I need not again repeat the reasons for adopting this method, as they are stated in my previous report, but I certainly would like to see this matter settled during this winter, either by Order in Council or while parliament is in session.

Areas for Private Culture.

I would like to see some action taken in the matter of allowing private individuals or companies to utilize the unproductive water bottom and encourage private culture, as it becomes more noticeable every year that our public areas are taxed to their utmost capacity, and ere long the industry must collapse unless aided in some other way.

It is a well known fact that where private culture is encouraged in the United States, the public areas are in a far better condition than other places where this industry is not prosecuted by individuals. This question has been at a standstill for quite a number of years now, and the sooner an arrangement is made for the private culture of oysters by individuals, the better it will be for all concerned, as there are thousands of acres of water bottom which might be converted into vast oyster beds if permission were obtained to do so. Oysters are becoming scarcer and more expensive each year; and many persons would only be too glad to go into the industry.

I have the honour to be, sir,

Your obedient servant,

ERNEST KEMP,

Oyster Expert of the Department of Marine and Fisheries.

APPENDIX No. 12.

REPORT ON BAIT COLD STORAGE FOR 1905.

(By Officer Peter Macfarlane.)

NEW GLASGOW, N.S., December 19, 1905.

To the Dominion Commissioner
of Fisheries, Ottawa.

SIR,—I beg leave to send you my sixth annual report on bait cold storage for the maritime provinces.

We have had an unusually busy season in the erection of bait freezers the past season, having completed or having in process of construction no less than eighteen of them. Bait has been exceedingly scarce the past year, and the great need of bait freezers by the fishermen themselves is now apparent. Where bait was stored the past season good results have been attained, notably at Ingonish and Drum Head. The dogfish have been a greater scourge than ever before. The reduction plant at Canso has been taxed to its utmost capacity, running overtime, and then it could not at times handle all that was sent to it. The one at Shippegan, N.B., was run for a short while only, as the fishing season was about over before its completion, but it will be all ready for another year. The one at Clark's harbour was later still, but it will also likely be all completed for the next dogfish season. The large commercial freezer at Canso is now in full blast, and a goodly supply of squid was secured for winter fishing. The commercial freezer at Halifax is getting well under way and will be completed at a very early date. When these two large commercial freezers get an abundant supply of bait in store as well as the local freezers, the fishermen should then be able to secure bait when required without any difficulty.

The following is a list by provinces of the different localities where freezers have been erected with the date of construction, number of bonuses and amount paid to each:—

BAIT FREEZERS. PROVINCE OF NOVA SCOTIA.

Name.	Year built.	Cost of construction	Dept. share.	No. of bonus paid.	Amount.
		\$ cts.	\$ cts.		\$ cts.
Ballantyne's cove.....	1900	1,361 04	861 04	3	215 75
Port Hood island.....	1900	1,313 60	656 80	2	126 35
Bayfield.....	1901	1,905 89	952 94	4	370 00
Gabarons.....	1901	1,982 82	991 41	1	51 50
Whitehead.....	1901	963 41	481 70	3	228 45
Port Beckerton.....	1901	1,043 05	521 54	4	256 50
Sambro.....	1901	2,246 66	1,000 00	3	300 00
Port La Tour.....	1901	1,880 03	690 01	0	Sold.
Clark's harbour.....	1901	1,202 88	601 44	3	206 00
Lower East Pubnico.....	1901	2,061 39	1,000 00	1	48 00
Sandy cove.....	1902	1,427 34	713 67	2	200 00
Ingonish.....	1902	1,604 33	797 16	1	16 80
Cheticamp.....	1902	1,277 42	638 71	1	100 00
Eastern harbour.....	1902	1,491 02	745 51	2	198 00
Petit du Grat.....	1902	1,515 95	757 97	3	300 00
Westport.....	1903	1,600 00	800 00	2	151 50
North Sydney.....	1903	2,038 89	1,000 00	2	194 00
Ketch harbour.....	1903	1,401 89	700 94	1	100 00
La Have.....	1904	2,250 81	1,000 00	1	52 00
St. Peters.....	1904	2,036 05	1,000 00	0	
Half Island cove.....	1904	1,816 87	908 43	1	100 00

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BAIT FREEZERS—*Concluded.*

PROVINCE OF NEW BRUNSWICK.

Name.	Year built.	Cost of construction	Dept. share.	No. of bonus paid.	Amount.
		\$ cts.	\$ cts.		\$ cts.
Shediac.	1902	1,210 18	605 09	2	200 00

PROVINCE OF PRINCE EDWARD ISLAND.

Frog pond.	1900	1,160 18	590 09	5	345 35
Alberton.	1900	1,347 67	673 83	5	450 00
Souris.	1901	2,064 39	1,000 00	1	10 00
Miminegash.	1902	840 46	420 23	3	300 00
Rustico.	1903	1,235 00	617 50	2	200 00

PROVINCE OF QUEBEC.

Bonaventure river.	1903	1,416 05	916 02	2	200 00
Caplin.	1904	879 38	439 69	1	97 00

The following is a list of the bait freezers completed and those in process of construction for the present year, 1905:—

Name.	Province.	Cost.	Half share by Department.
		\$ cts.	\$ cts.
Lockeport.	Nova Scotia.	1,788 66	894 33
Louisburg.	"	2,290 16	1,000 00
Drum Head.	"	1,649 37	824 68
Quoddy.	"	857 73	428 86
Big island.	"	1,013 32	506 66
Anse à la Barbe.	Quebec.	961 12	480 56
Paspebiac.	"	1,690 83	845 41
Etang du Nord.	"	1,729 80	864 90

The undermentioned are well advanced:—

Arisaig, Antigonish county, N.S.

South bay, Ingonish, C.B., by private enterprise.

Maria Capes, St. Godfroy, Bonaventure east.

Cabin cove, Magdelene islands.

The last four are all in the province of Quebec.

Arrangements have also been made for one at Digby for 100 tons and one at Lunenburg of the same type, both in Nova Scotia. Work to commence on one at Anse aux Gascons, and another at Newport point, in the province of Quebec, with one each for Caraquet, Lower Caraquet and Shippegan in the province of New Brunswick. The last two had to be abandoned for the present at least to be taken up next year.

The following reports are from the different bait stations and will convey to you a better and truer statement of affairs than any very elaborate report I might make:—

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NOVA SCOTIA.

Ballantyne's Cove, N.S.—The president of this association reports as follows: 'I have the honour to report as follows regarding the fish industry for this season of that portion of Cape George district affected by the fish freezer at Ballantyne's Cove. The freezer was not in operation during the year 1904. Last winter ice was stored in it to its full capacity, and everything put in order to operate it during the year. The season opened late, owing to the presence of drift ice on the coast. The catch of herring was intermittent and unusually limited. During the month of May, the only month in which bait could be procured, about 175 barrels were taken, a portion of which was frozen and stored in the freezer. Fishing was industriously followed from the opening of the season till about the beginning of August, when the swarms of dogfish that invaded the shores absolutely paralysed the industry for the remainder of the season. The following is an approximation of the quantity of fish taken this season:—

Herring, about 175 barrels; green cod, hake and haddock sold or cured in the vicinity, 152,000 lbs.; same caught in vicinity and taken away by foreign boats, about 100,000 lbs.; salmon about the same as last year; lobsters about the same as last year; mackerel an inappreciable quantity.

A careful comparison was made between the quantity of fish taken this year and that taken last year, when there was no bait in cold storage, and it was found that fully one-third more fish were taken this year than last, and this notwithstanding the fact that this year was an unusual one for the scarcity of bait. It will, therefore, be readily seen that the operation of the freezer was of unquestionable benefit to the fishermen in the vicinity of Ballantyne's Cove.

Bayfield, N.S.—The secretary of this association says: We stored the usual quantity of ice, about 450 tons, and commenced freezing herring on May 15. Herring were scarce, but we managed to get enough to fill our freezer. This year the frozen bait was a great source of benefit to the lobster fishermen, as the lobsters seem to trap better on fresh bait than on the salted article. As there was no live bait to be had after June 15, we cleaned our freezer out and had not a pound left after August 20.

Big Island, N.S.—This is one of our new freezers erected the past year. The secretary reports as follows: 'Herring were very plentiful in the month of May, but no way to secure them for bait purposes. Codfish and hake were also very plentiful in June and July. Dogfish struck in the month of August, and have remained on the coast ever since. Salmon a very fair catch, but lobsters scarce on the coast, but in the ensuing summer I anticipate a good summer in bait, as the freezer will be in first-class order.'

Canso, N.S.—The secretary of the Canso Company sends the following report: 'We may say that 1905 will have to be written down as an off year in the fishery of Nova Scotia. Some localities have done fairly well, but take the business as a whole, it has not been remunerative. Rough weather, the prevalence of dogfish and the scarcity of bait have combined to rob the fishermen of their reward. This is particularly noticeable in the codfishery, both shore and bank, but the same causes have had the same effect in other lines as well.

The small returns from the herring fishery may be attributable to other causes, though it is not certain that the dogfish do not drive them from our shores. Our winter haddock fishery is now coming on and has certainly one thing in its favour—there is an abundant supply of bait for that purpose. The indications are that the catch will be up to the average. The outfit for the business is increasing every year, and our people now look forward eagerly for the haddock season, and many thousands of dollars will probably be paid out during the next six or eight weeks for these valuable fish. Last winter two men were known to make \$90 a day fishing in a dory,

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and making two trips in a day, and in a number of instances two men made \$50 a day. It cannot be wondered at that our men are eager for the haddock fishery to begin. It may be added that the introduction here of the business of smoking the toothsome 'finnan haddie' has increased greatly the demand for haddock, and enabled the buyers to dispose of their surplus stock not only without loss, but with a fair profit at times as well. With regard to bait, it may be said that the completion of the freezing plant of the Canso Cold Storage company, toward the cost of which the Dominion government contributed, has been a long step in advance for our fisheries. Some 1,500 barrels of squid have been stored at this plant, up to date, and it is expected that a considerable additional quantity will be secured. The building has a capacity of about 10,000 barrels. The machinery and other outfit are thoroughly up to date, and the results accomplished are all that could be desired, so far as the operation of the plant is concerned. It is hoped that the financial results will be equally satisfactory.

Drum Head, N.S.—This is one of our new bait stations, and gave us excellent results. The secretary says: 'Codfish, haddock and pollock have been very plentiful all the season, but not many other kinds caught. They have all been caught on frozen bait. The season is not to a close yet, as they fish here up till January.'

Port Beckerton, N.S.—The secretary reports as follows:—The fisheries as a whole have been poor, and as we had no frozen bait in the harbour, we had no chance of testing its merits, but I know that we in the schooner *Hilda M. Horton* fished from Drum Head the month of November with good results and used bait frozen in that freezer and took about twenty thousand lb. of codfish and haddock and are fishing there yet. There being no other bait at hand, we were compelled to go to Drum Head and use the frozen herring, and I pronounce it a success. If our men would pay attention to our freezer we could have bait when needed.'

Quoddy, N.S.—This is one of our new bait stations and reports that codfishing was a failure in our district. Total average for the season about 20 quintals per boat. Herring plentiful since August. No mackerel in shore. One trap here took three hundred barrels herring, twenty barrels mackerel and ten barrels squid. Dogfish plentiful the whole season. Bait scarce on the ground on their account. We have frozen about one and a half tons bait.

Sambro, N.S.—The secretary of this association says: 'The fishing season is not finished in this county, as a great number fish all winter. Cod, haddock and mackerel were caught in small quantities during November. Weather fairly good, bait scarce, frozen bait procurable, but not much used as the men say they cannot use it well while there is any fresh bait moving. E. M. Boutilier, of Halifax, placed 500 boxes herring in our freezer in October and has taken out probably 100 boxes. The fishing has been the poorest since June that I have ever known, and dogfish the most troublesome for years. We froze twenty-five tons herring in the fall of 1904 and sold it during the winter, but we have frozen none this season.'

Ketch Harbour, N.S.—The president of this association reports as follows: 'We stored about 80 tons of ice last winter and then nothing more until August 21; put in a half ton of squid which paid well.

September 26, put in 4 tons herring.

September 28, put in 4 tons herring.

September 30, put in 4 tons herring.

October 2, put in 4 tons herring.

October 4, put in 3 tons herring.

October 20, put in 4 tons herring.

October 22, put in 2 tons herring.

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The vessels are just making a start for winter fishing, but find the dogfish very plentiful on the fishing grounds yet, and expect they will trouble them very much this winter. It will take all they will make to purchase bait to feed them.'

Lockeport, N.S.—The secretary of this association says: 'Our freezer was completed about April 1, 1905. We had during the winter put in 225 tons of ice and 20,000 Newfoundland frozen herring for the spring fishing. The fishermen showed great reluctance to use frozen bait, so that we have only disposed of 15,000 of the herring up to date. We have frozen very little besides these herring, there being great scarcity of herring here and no squid. Our ice is nearly all used as we have had to keep one storage room charged constantly since March 1. The boats which used the bait the longest are highline, and give credit of it to the bait.'

Sandy Cove, N.S.—The secretary of this association reports as follows: 'Our freezer this season was a great source of benefit to the boat fishermen who baited with the frozen bait. Herring were not plentiful along our shore and very small, too small for freezing. We did not get as many herring as we would like to have had. Our freezer keeps our fish fine, and the fishermen say when the herring are put in fresh and frozen well it is just as good as fresh bait.'

La Have, N.S.—The president of this association reports as follows: 'Briefly summarizing the fisheries for the season I may say that during the months of June, July and the first part of August, cod, hake and haddock, as well as pollock, were fairly plentiful at a distance of 15 or twenty miles off the coast. During the latter part of the season, there was a noticeable scarcity, due principally to the prevalence of dogfish and a scarcity of bait. The catch of herring and mackerel was very small in comparison with other years, in fact the catch of the latter was practically nil. The dogfish seem to be the chief cause of a dropping off in the catch of fish during the latter months of the year.'

Half Island Cove, N.S.—The secretary of this association reports as follows:—'During April and May cod were very scarce and lobsters almost a failure. During June we had a good run of mackerel, which greatly helped the fishermen. The first part of July was dull, but during the latter part and August haddock and cod were good, but we were greatly bothered for bait. September was poor and October also. Mackerel was a failure this fall. Dogfish were plentiful and no squid here during the whole season. We got a few in the Straits of Canso. The fall haddock have been a failure so far, but we are expecting some yet if the weather is fit to fish. About this time we generally get some small herring, which makes a good bait for trawling, but they have not arrived yet.'

CAPE BRETON.

Port Hood Island, C.B.—The president of this association reports that 'May, June, July and August were very favourable for fishing. The weather was fine. We had some spring herring in May which were mostly used for lobster bait, codfish being very scarce. We did not freeze any herring, as past experience taught us that frozen spring herring did not turn out to advantage, but this year was an exception, as mackerel and squid being scarce, we could have used herring had we put up some in the freezer, otherwise we had to import bait from Mulgrave freezer. Hake fishing was fairly good in July and August. Mackerel was the principal bait used. There was no squid to be had anywhere in the bay until October. In September there were a lot of herring around, but the dogfish prevented us from getting many. The dogfish were masters for three months, no other fishing done from September to the 20th of November. We sent about 400 tons of dogfish to the Canso reduction works and could have sent 1,000 tons if we could get a market for them, but they could not take them

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from us, and our fishermen were idle two-thirds of the time or about two months. The Canso reduction factory is too far from us, as in the months of September and October dogfish require to be delivered at the works in a fresh condition, not more than twenty-four hours old in warm weather. Some of our first shipments sent to Canso were dumped out at sea, they being three or four days old, could not be used to advantage. The steamer *Thirty-Three* ran here in November and took all that was caught, but the large dogfish had left the fishing ground before that steamer came here, so we had only the small dogfish to give her. We put quite a lot of squid in the freezer in October, and they came in good for bait up until now. We have to import frozen squid for the balance of the fishing season. We had no traps here. What squid we got landed on the shore. The dogfish prevented catching them on jigs. There were considerable squid at Hawkesbury, but competition was so high and buyers from Halifax, Canso and Mulgrave put them above our reach. We had no conveyance to get them here only by the *Malcolm Cann* once a week, so we could not share in the Hawkesbury squid bait.'

Ingonish, C.B.—The secretary of this association reports that 'this has been the most satisfactory season we have had since our freezer was built. In May we froze about twelve tons of herring, which proved to be of great value to the fishermen, owing to the scarcity of other bait. We have a few of the herring still in the freezer and the fishermen are using them now and find them excellent bait. We froze about five tons of squid which we managed to get when they first struck in. They were very scarce and only lasted a few days, when they left. It did not take us long to dispose of the frozen squid, which proved a blessing for the fishermen. We froze several tons of other fish and they all gave great satisfaction. Our freezer is in fine condition and does its work to perfection. The fishermen here, many of whom have been doubtful as to the value of frozen bait, are beginning to see for themselves the great value of the freezer, which supplies them with bait when there is no other way of getting it. Our fishing season is by no means to a close. This is about the best part of it and usually the herring strike in here during this month. So far they are very scarce, only five and six to a net. If they strike in good we intend filling our freezer with them for the next season in case they would be scarce in the spring.'

The president of the North Bay Ingonish Fisheries Association, Limited, says: For reasons disclosed in previous correspondence the bait freezer at this place was not in operation in the years 1903 and 1904, to the great disappointment and regret of those who had been instrumental in the erection of the freezer, and who in their report of 1902 were able to forecast with certainty results of a beneficial character to the fishing interests here, if the freezer were only used as intended. In 1904 the freezer was enlarged so as to give us 250 tons of ice capacity, instead of 150 tons, and some needed improvements were made to facilitate the handling of fish, ice, salt, &c., &c. At the adjourned annual meeting of the shareholders, held on August 29, 1905, a report was submitted to the shareholders compiled from the sources accessible to the officers and members, with a view of setting forth in detail, not only the history of the freezer, but the results of this year. The additions to the freezer and the various improvements were completed about November, 1904. In March, 1905, the freezer was filled with 250 tons of salt water ice. On May 5, the herring struck into the bay, but the quantity of floating ice made it difficult to set nets, and the amount of herring frozen at that time was between ten and eleven tons, for the herring disappeared with the floating ice, and the capacity for freezing herring simultaneously is limited to about 3,000 pounds at a time in a twenty-ton freezer. The one thing above all others that has been established beyond controversy is this: Fresh fish only can make good frozen bait. The fish should be brought directly from the nets to the freezer. By waiting over night or a day the fish deteriorate and are no longer safe for bait. You cannot make good bait of old fish by any amount of freezing. This is a crucial point, and the greatest care and watchfulness must be used to prevent stale fish from being mingled with the fresh fish.

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Better half the quantity of the best than a freezer full of poor bait that not only discourages the fisherman, but gives a bad name to frozen bait and to the bait freezer. The bait from our storage comes out hard and bright and in excellent condition. In June the haddock fishing commenced. There was no fresh bait of any kind to be obtained and all the fishermen used the frozen bait. It was, therefore, tested under favourable conditions by the whole and not by a part of the fishermen. They were able to fish every day in the week, instead of only some days in the week as heretofore, and the results show the effect of such a condition. There are in the whole of the bay about thirty fishing boats, and in this cove about twenty boats. A comparison of results with 1904, when there was no bait freezer in operation, is significant. As a result of the June fishing there were shipped to Halifax in July from North bay, 450 quintals of dried fish caught by the small boats of this bay. In August, 568 quintals. The total shipments, 1,018 quintals. The gross shipments of July and August, 1904, 400 quintals at the very outside. Balance in favour of this year, 618 quintals, and there are some 200 quintals in preparation for shipment. The gross shipments of June, July and August, 1904, do not exceed 600 quintals; for June, July and August, 1905, they exceed 1,500 quintals. After making all allowances and giving every consideration to fresh bait catches, we believe we are entitled to claim as the direct result of the bait freezer for the months of June, July and August, 1905, at least 800 quintals of dried fish in the markets of Halifax and Boston. About two-thirds of the frozen bait put into cold storage in May have been used by the fishermen, and not only our own boats have been supplied, but the boats of South bay, Neil's harbour occasionally, and Dingwalls. It is frankly conceded by most of the fishermen that their boats would have been idle much of the time in June, July and August but for the frozen bait, and they admit, too, that the presence of the freezer has given them better wages and has put them in a better condition for the autumn fishing than they have been before. We beg to renew to you our thanks for your kind assistance in many ways and your interest and encouragement in our new departure and also to acknowledge our indebtedness to the government for its contribution towards the additions and improvements of the bait freezer.'

Gabarus, C.B.—The secretary of this association reports as follows: 'I may say that in a general way the past season for this district has been a successful one, and would have been one of the very best had not the dogfish prevented good fishing so much of the time. Lobster fishing was good, particularly at Fourchu and Gabarus, notwithstanding the presence of ice on the coast until late in May. The high prices paid for codfish made this branch of the fisheries very profitable to the fishermen, while mackerel and herring were very good indeed. What we want is some way to be arranged to enable our fishermen to make a most vigorous war on the dogfish. They have become such a menace to the other kinds of our fish food, and if something is not done to at least mitigate this evil, it is possible that utter ruin will overtake our fishing communities.'

NEW BRUNSWICK.

Shediac, N.B.—The secretary of this association says as follows: 'We expected to freeze from fifteen to twenty-five tons of spring herring, but were disappointed, only having got some five tons, due to the ice remaining in the harbour some two weeks longer than usual, and the fishermen delayed in setting their nets in time to catch the fish before they left the water. We had made all preparations to run the freezer the full season and laid in about two hundred tons of ice, which I may say was also disappointing. We had been informed that salt water ice was equally as good as that from fresh water, but as stated before in a monthly report to you, we lost the greater part of the ice, in fact all the salt ice (almost 150 tons). During the month of October we got in a quantity of smelts, which was increased during the month of

November, and with the larger quantity received during the present month we have had in some fifteen tons to date, and I may say owing to the changeable weather this fall, the freezer has been an incalculable assistance in saving the smelts.²

PRINCE EDWARD ISLAND.

Alberton, P.E.I.—The secretary of the Alberton Fishermen's Bait Association says: 'We did not put in as much herring as usual on account of the fishermen not taking all we had, and on account of the scarcity of bait, we sold out early, and the men found great results from using frozen bait, in fact five Nova Scotian schooners came in here for bait, but could not get any. I regret that owing to lack of financial resources we are unable to run the freezer next year. Now that the fishermen are beginning to take hold of frozen bait, I would urge upon the government to push the freezer for another year or two, as many of our fishermen are now turning to codfishing for a living. We passed about twelve tons of fish through this year.'

Frog Pond, P.E.I.—The president of this association reports that 'on account of bad weather we were unable to get in a supply of ice this season. We felt the need of frozen bait a great many times during the summer. Our bait supply was wholly procured from nets. We had no squid in this section this season. Herring were taken for the first on April 27. Fishing was good until June 3. Codfish struck in on June 2. We had a good catch of codfish and hake until July 30. Dogfish struck in at that time, thus ending our fishing.

Miminegash, P.E.I.—The president of this association says: 'On May 3 last we opened our freezer and filled it up with spring herring, which were well frozen. Immediately after the run of herring was over, our fishermen began using the frozen herring which proved a boon to them, as good catches of cod were taken by them both on the setlines and handlines. About the end of July small fat summer herring struck in which we availed ourselves of to fill up our freezer again. These small fish made splendid bait, but did not keep quite so well as the spring herring.'

Souris, P.E.I.—I beg leave to say that arrangements have been made whereby this splendid freezer will be run to its full capacity another year. The secretary reports that: 'Fishing began about the latter part of April. Herring fishing was fair for a short time. Lobster fishing good at the start. Codfish struck in early May. Lobsters continued plentiful the greater part of May, but towards the end and in the month of June they were very scarce. The catch was light on the whole. Codfish and hake were not nearly up to the usual catch. Later in fall, under the stimulus of good prices paid by the dryer, fishermen were more anxious to catch the fall late fish, and more were taken than usual. Bait was scarce. No frozen bait used. Fall herring fishing was a failure. Dogfish were a complete nuisance most of the autumn. Mackerel a failure.'

PROVINCE OF QUEBEC.

Cuplin, Que.—The secretary of this association reports as follows: 'The first part of the season was not a success to fishermen. The summer fishing began about the first of July and cod were not very plentiful. During the month of August codfish seemed to be very plentiful, but dogfish were very bothersome in bay, which meant a great loss to fishermen. The fresh herring have been used for bait most of the time, so that but a small quantity of frozen bait has been used during the remainder of the season. A large quantity of cod has been taken, and the weather has kept fine during the season with the exception of westerly winds, but not enough to stop boats from going out to fish, only a few days. Fall herring have been taken in small quantities every day. The fishing season stopped on November 15, for the reason of storms from

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the east with rain and strong breezes from the west, while there was plenty of cod to be had.'

Bonaventure River, Que.—The secretary reports as follows: 'We have had good weather for fishing the most of the season, excepting the last two months, October and November. They were rough with heavy winds, but fishermen have done well this season. Good codfishing for those that had bait. We did not catch fall herring in nets. Fishermen had to go to New Carlisle and Paspébiac to seine small herring for their bait, and that bait would only last a few days in October, from the 10th to the 20th only. We have put in our freezer 300 crates, 60 barrels, this fall of this small herring, and fishermen have used no other bait since October 20, and they have about 20 crates in the freezer yet. They have found this frozen bait very good this fall, and had weather permitted they would have done well in codfishing. We have used about 160 barrels frozen bait during the season. You will see by the return that I will send you next month. The fishermen were not bothered much with dogfish here this season. We did not catch any mackerel or halibut during the season.'

Anse à la Barbe, Que.—This was one of our new freezers, having been built last winter, and the report is as follows: 'The catches of fish for May and June were very light. Bait fairly plentiful and weather fine most of the time. During the months of July and August the catch of cod was also very small, owing partly to the scarcity of bait. Frozen bait was then used for two weeks with good success, but as they went deeper in the storage room, it was found that the bait had spoiled (heated). In my opinion there were two causes, first the bait was frozen in a filthy condition; second, it was not properly arranged in the storage room, as it was all piled in a heap with no chance of air circulating through it. For this I blame the one who did the freezing. During these two months dogfish did considerable damage to fishermen. The months of September, October and November were much better for fishing, but had there been plenty of bait the catch would have been larger.'

Paspébiac, Que.—This is one of our new bait stations and a very important one too. The secretary reports as follows: 'The following is a synopsis of the fisheries in this locality for the past season. Lobsters appeared about May 10. The catch was below the average and of small size. Herring first caught about April 25, spring school was less and fish of smaller size than usual. Summer season sufficient of small size could be netted to supply fishermen with bait. During the fall, scarcity was the cry in the district, barring for a week or two, at which time the fish came in shore, but heavy northwest wind caused them to move away early and did not reappear. Squid nor mackerel did not show up. Smelts were a very limited quantity, due to strong winds. This fish kept outside of seining reach. Cod was the most important factor of the fisheries in this locality. Many men are employed prosecuting this branch. Catch has been an average one, this coupled with high prices has made the season a remunerative one for all concerned.'

There are a few who have not up to this date sent any report. They are as follows: Eastern Harbour, North Sydney, Louisburg in Cape Breton, Lower East Pubnico and Westport in Nova Scotia.

As a brief summary the past winter was an excellent one to put up, and with the exception of a very few all put up a good supply of ice. Bait was very scarce. There has not been a season since this scheme was inaugurated when there was a greater scarcity, hence the boom in building freezers. Dry fish has been selling at very high prices, so that has helped some to make up the deficiency in the catch.

The haddock fishing has not yet got fairly started, and as there is a good supply of bait generally, it is to be hoped that the fishermen who do any winter fishing will

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reap a rich reward, as they have to suffer from cold and hunger, and the fogs and mists arise and very often they are lost altogether, so that they should get some recompense for their very hard and laborious task.

The whole most respectfully submitted.

I have the honour to be, sir,

Your obedient servant,

PETER MACFARLANE.

APPENDIX No. 13.

REPORT OF THE FISHERIES PROTECTION SERVICE OF CANADA.

BY COMMANDER O. G. V. SPAIN, R. N.

OTTAWA, December 29, 1905.

To the Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to report on the work of the Cruiser Fleet looking after the protection of the fisheries on the Atlantic coast, the Great Lakes and the Pacific coast. I also append a report of the Fisheries Intelligence Bureau. The vessels pertaining to this fleet, under my command, for the past season, were as follows:—

Canada, Captain Knowlton;
Vigilant, Captain Dunn;
Curlew, Captain Pratt;
Osprey, Mr. Graham;
Constance, Captain May;
La Canadienne, Commander Wakeham;
Petrel, Captain Kent;
Kestrel, Captain Newcombe.

The patrols of these vessels during the past season were as follows:—

The *Canada* on the Nova Scotia and Cape Breton coast.

The *Vigilant* on Lake Erie.

The *Curlew* in the Bay of Fundy.

The *Osprey* on the southeast coast of Nova Scotia and Cape Breton, from Liscombe to Sydney.

The *Constance* in the River and Gulf of St. Lawrence and Nova Scotia coast. This vessel is managed by the Customs department, in everything regarding her movements, and is under the charge of Inspector Fred. L. Jones.

La Canadienne, as usual working independently of the rest of the fleet, under the charge of Commander Wakeham, who is the officer in charge of the Gulf division fisheries.

The *Petrel*, after alterations to fit her for salt water, was transferred from Lake Erie last spring to the Atlantic coast, to take the place of the sailing cruiser *Kingfisher*, which vessel was condemned as unfit for further service as a cruiser and sold.

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Kestrel.—This vessel is employed in British Columbia waters for the protection of the fisheries, and has done good work under Captain Newcombe, not only with regard to the fisheries, but also in locating fishing banks off the coast. The information gathered by him has been of great value to the department.

Falcon is a small steamer also employed in the protection of British Columbia fisheries under Inspector Williams.

The two new cruisers which were built last year, the *Canada* by Vickers, Sons & Maxim, Ltd., England, and the *Vigilant* by the Polson Iron Works, Toronto, have done excellent work. They both have a speed of $21\frac{1}{2}$ miles an hour, and having the *Vigilant* on Lake Erie, in place of the *Petrel*, has proved of great benefit.

The *Canada*, after her return from the instructional cruise to the West Indies in May last, took up the work of fisheries protection on the Nova Scotia and Cape Breton coast.

Detailed reports from the captains of the various cruisers, giving a synopsis of their work during the past season, will be found attached.

In addition to the above there are four sea-going patrol steam launches, which are used for looking after the carrying out of our laws by our own fishermen, especially in regard to lobster protection. One of these launches is stationed in the Bay of Fundy, one on the Nova Scotia coast, one on the Cape Breton coast and one at Magdalen Islands.

They have all done excellent work and proved of invaluable assistance in connection with the different cruisers. They have been officered and manned from the cruisers *Petrel*, *Osprey* and *Curlew*.

I have the honour to be, sir,

Your obedient servant,

O. G. V. SPAIN,

Commanding Marine Service of Canada.

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LIST of United States Fishing Vessels to which Licenses were issued under the Act intituled 'An Act respecting Fishing Vessels of the United States of America, during the year 1905.

Name of Vessel.	Port of Registry.	Tons.	Port of Issue.	Fees.
				\$ cts.
Titinia	Gloucester, Mass.	77	Yarmouth, N.S.	115 50
Quickstep	Boston	75	Digby, N.S.	112 50
Gadliator	Gloucester	75	Halifax, N.S.	112 50
Maryland	"	86	Yarmouth, N.S.	129 00
Independence II	"	110	Halifax, N.S.	165 00
Gladys and Sabia	Salem	50	Liverpool, N.S.	75 00
Paragon	Gloucester	81	Halifax, N.S.	121 50
Metanoria	"	81	Shelburne, N.S.	121 50
Harry A. Nickerson	Booth Bay, Me.	83	Yarmouth, N.S.	124 50
Alice R. Lawson	Gloucester, Mass.	85	Tusket, N.S.	127 50
Puritan	"	62	Pubnico, N.S.	93 00
Elector	"	84	"	126 00
A. E. Whyland	"	96	"	144 00
Talisman	"	88	Liverpool, N.S.	132 00
Senator Gardner	"	94	Yarmouth, N.S.	141 00
Georgie Campbell	"	78	"	117 00
Judique	"	89	Pubnico, N.S.	134 50
Mabel D. Hines	"	92	"	138 00
Madonna	"	79	"	118 50
Sceptre	"	91	Halifax, N.S.	136 50
John L. Nicholson	"	92	Yarmouth, N.S.	138 00
Senator	"	75	Halifax, N.S.	112 50
Arbitrator	"	72	Liverpool, N.S.	108 00
Oregon	"	79	Pubnico, N.S.	118 50
Horace B. Parker	"	62	Tusket, N.S.	93 00
Essex	"	84	"	126 00
Wm. E. Morrissey	"	93	"	139 50
Gossip	"	91	"	136 50
Bohemia	"	86	"	129 00
Orpheus	"	73	"	109 50
Hazel R. Hines	"	79	"	118 50
Columbia	"	89	"	133 50
Henry M. Stanley	"	83	"	124 50
Maggie and May	"	88	Yarmouth, N.S.	132 00
Loring B. Haskel	Boston	67	Digby, N.S.	100 50
Muriel	"	83	Shelburne, N.S.	124 50
J. J. Flaherty	Gloucester	124	Tusket Wedge, N.S.	186 00
Effie M. Morrissey	"	83	Digby, N.S.	124 50
Maggie Turner	Booth Bay, Me.	44	Yarmouth, N.S.	66 00
Atalanta	Gloucester, Mass.	75	Halifax, N.S.	112 50
Blue Jacket	"	86	Yarmouth, N.S.	129 00
Valkyrie	"	104	"	156 00
Helen F. Whitten	"	92	Canso, N.S.	138 00
Lizzie Maud	Vinalhaven, Me.	48	Yarmouth, N.S.	72 00
James R. Clark	Salem, Mass.	43	"	64 50
Grace Darling	"	43	"	64 50
Parthian	Gloucester, Mass.	77	Shelburne, N.S.	115 50
Hiram Lowell	"	95	Lockeport, N.S.	142 50
Flirt	"	82	Canso, N.S.	123 00
S. P. Willard	"	87	Liverpool, N.S.	130 50
Samuel R. Crane	Salem	52	Thornes Cove, N.S.	78 00
Senator Saulsbury	Gloucester	77	Arichat, N.S.	115 50
Colonial	"	79	North Sydney, N.S.	118 50
Meteor	"	96	"	144 00
Mildred Robinson	Boston	86	Liverpool, N.S.	129 00
B. D. Nickerson	Booth Bay, Me.	89	Pubnico, N.S.	133 50
Gladstone	Gloucester, Mass.	74	"	111 00
Dictator	"	92	Canso, N.S.	138 00
Mary G. Powers	"	95	North Sydney, N.S.	142 50
Dora A. Dawson	"	93	Arichat, N.S.	139 50
Caroline Vought	Vinalhaven, Me.	48	Shelburne, N.S.	72 00
Fannie Belle Atwood	Boston, Mass.	82	Canso, N.S.	123 00

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List of United States Fishing Vessels to which Licenses were issued—*Concluded.*

Name of Vessel.	Port of Registry.	Tons.	Port of Issue.	Fees.
				8 cts.
Cavalier.....	Gloucester, Mass...	96	House Harbour, Que...	144 00
Joseph W. Lufkin.....	" " " " " "	80	Canso, N. S.	120 00
Agnes V. Gleason.....	" " " " " "	44	Port Hood, N. S.	66 00
Levanter.....	Vinalhaven, Me.....	27	Yarmouth, N. S.	40 50
Carrie W. Babson.....	Gloucester, Mass.....	62	North Sydney, N. S.	93 00
Argo.....	" " " " " "	79	Tusket Wedge, N. S.	118 50
Theodore Roosevelt.....	" " " " " "	90	Canso, N. S.	135 00
Fannie E. Prescott.....	Boston " " " " " "	87	" " " " " "	130 50
Aloha.....	Gloucester, Mass.....	100	St. Ann's, N. S.	150 00
Latona.....	" " " " " "	71	Port Hawkesbury, N. S.	106 50
Margarett.....	Beverly " " " " " "	107	Tusket, N. S.	160 50
Catherine G. Howard.....	Boston " " " " " "	83	Pubnico, N. S.	124 50
Margaret.....	Gloucester " " " " " "	79	Halifax, N. S.	118 50
Catherine Burke.....	Boston " " " " " "	92	Pubnico, N. S.	138 00
Mooneen.....	" " " " " "	83	" " " " " "	124 50
Arabia.....	Gloucester, Mass.....	86	Tusket, N. S.	129 00
Squanto.....	" " " " " "	95	Port Hawkesbury, N. S.	142 50
Appomattox.....	" " " " " "	47	Lockeport, N. S.	70 50
W. H. Rider.....	" " " " " "	45	Pubnico, N. S.	67 50
Agnes.....	" " " " " "	75	Port Hawkesbury, N. S.	112 50
Illinois.....	" " " " " "	78	" " " " " "	117 60
Canopus.....	" " " " " "	47	Pubnico, N. S.	70 50
Corona.....	" " " " " "	82	Liverpool, N. S.	123 00
Richard Wainwright.....	" " " " " "	98	Tusket, N. S.	147 00
Orinoco.....	" " " " " "	88	Liverpool, N. S.	132 00
Mildred V. Nunan.....	Kenonebenck.....	43	Shelburne, N. S.	64 50
Indiana.....	Gloucester, Mass.....	88	Yarmouth, N. S.	132 00
T. M. Nicholson.....	Ruckport, Me.....	90	St. Peter's, N. S.	135 00
Hattie A. Heckman.....	Gloucester, Mass.....	72	Tusket, N. S.	108 00
Rena.....	Boston " " " " " "	37	Port Hawkesbury, N. S.	55 50
Mariene Elliot.....	Gloucester " " " " " "	75	North Sydney, N. S.	112 50
Edwin B. Holmes.....	" " " " " "	49	" " " " " "	73 50
A. M. Nicholson.....	" " " " " "	100	" " " " " "	150 00
Edna Wallace Hopper.....	Boston " " " " " "	97	" " " " " "	145 50
Louis H. Giles.....	Gloucester " " " " " "	94	" " " " " "	141 00
Corsair.....	" " " " " "	78	" " " " " "	117 00
Robin Hood.....	" " " " " "	65	" " " " " "	97 50
Golden Rod.....	" " " " " "	98	" " " " " "	147 00
Lottie G. Merchant.....	" " " " " "	79	" " " " " "	118 50
Arkona.....	" " " " " "	97	" " " " " "	145 50
Geo. Parker.....	" " " " " "	100	" " " " " "	150 00
Arbutus.....	" " " " " "	86	" " " " " "	129 00
Ralph F. Hodgdon.....	Eastport, Me.....	59	Louisbourg, N. S.	88 50
Tattler.....	Gloucester, Mass.....	135	North Sydney, N. S.	202 50
Emma E. Wetherell.....	" " " " " "	81	Lockeport, N. S.	121 50
				12,814 00
			*Overpaid.....	1 00
107 vessels.....		8,542		12,813 00

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List of French Vessels Arrived at North Sydney from Oct. 31, 1904, to Oct. 31, 1905.

Date.	Name of Vessel.	Master's Name.	Tonnage.	Men.	—
April 25.	Albert Robert.	Cavelier.	42	16	Seeking bait.
May 9.	Amphritite.	Paulaud.	60	20	" "
" 11.	Albert Robert.	Cavelier.	42	16	" "
" 15.	Angovia.	Bulliard.	44	15	" "
" 22.	Angelia.	Fremander.	55	15	" "
June 3.	"	"	55	21	" "
Sept. 5.	Albert Robert.	Cavelier.	42	16	" "
Oct. 6.	Annie.	Constantine.	42	17	" "
" 21.	"	"	42	17	" "
May 26.	Amphritite.	Paulaud.	60	20	" "
" 8.	Bretagne.	Le Moine.	59	21	" "
" 11.	Bayanise.	Pichon.	43	17	" "
" 15.	Batavia.	Robould.	79	22	" "
" 2.	Canadian.	Leraux.	51	18	" "
" 15.	Cussien.	Maullard.	47	6	" "
" 15.	D. P.	Dufresne.	13	8	" "
" 12.	Emile T.	Jani.	55	20	" "
" 15.	Eugenia.	Gregen.	15	9	" "
April 27.	Four de Ozen.	Crol n.	91	23	" "
May 15.	Four de Pin.	Jumel.	50	18	" "
" 26.	France.	Lamey.	52	22	" "
April 25.	Galatie.	Gazen.	61	21	" "
" 27.	Gustave Prosper.	Oberan.	35	16	" "
May 15.	Grand Master.	Boudle.	47	13	" "
" 15.	Georges.	Cluett.	40	16	" "
" 19.	Galela.	Pichard.	55	18	" "
" 15.	Gustave Prosper.	O'Brien.	35	16	" "
" 28.	Georges.	Cluett.	40	16	" "
April 26.	Helene.	Plamgeon.	36	15	" "
" 25.	Josephine.	Matheran.	38	17	" "
" 25.	Jaquelmain.	Harriet.	34	15	" "
May 1.	Jersam Augusta.	Gould.	34	16	" "
" 10.	J. L. C.	Grillard.	58	21	" "
" 10.	Joseph Rosalia.	Lafourdea.	42	16	" "
" 15.	Jean Maurice.	Heram.	19	13	" "
" 15.	Jean Baptist.	Garualt.	52	18	" "
" 15.	Josephine.	Matheran.	38	16	" "
" 15.	Jennett.	Le Broise.	33	15	" "
" 22.	Jean Augusta.	Tautal.	34	16	" "
" 29.	J. L. C.	Gullard.	58	21	" "
June 2.	Josephine.	Matheran.	38	16	" "
April 26.	La Tour de Pin.	Juvel.	50	18	" "
May 1.	Le Sessen.	Devaux.	45	18	" "
" 11.	La Normanda.	Herbin.	43	17	" "
" 15.	Louisa Maurice.	Olien.	50	22	" "
" 15.	Leon Emeline.	Denis.	28	16	" "
" 22.	La Seine.	Devaux.	45	18	" "
" 22.	La Bretagne.	Le Moine.	59	21	" "
June 3.	"	"	59	21	" "
April 27.	Malam.	Massey.	52	21	" "
" 27.	Marie L.	Gerardin.	60	19	" "
" 25.	Marie Augustine.	Rebman.	31	17	" "
" 28.	Madeline.	Le Flour.	57	19	" "
May 1.	Mauch.	Suechal.	54	20	" "
" 1.	Maurice.	Lefitte.	39	16	" "
" 15.	Marie Therese.	Dechamps.	45	21	" "
" 15.	Marie Augustine.	Rebman.	31	17	" "
" 15.	Maulase.	Mariny.	52	20	" "
June 1.	Marie Therese.	Dechamps.	45	12	" "
" 3.	Marie Augustine.	Rebman.	31	17	" "
Sept. 27.	Marie Josephine.	Constantine.	39	13	" "
" 29.	Madeline.	Huegen.	57	19	" "
Oct. 12.	Mascot.	Goureau.	31	14	" "
May 1.	Notre Dame Le Grand.	Debrouse.	87	25	" "
" 12.	Normanda.	Bourgeois.	36	14	" "
" 22.	Notre Dame de La Garde.	Debraise.	87	25	" "
" 23.	Noa Carson.	Dupley.	114	22	" "
" 1.	P. F. No 2.	Georges.	30	14	" "

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LIST of French Vessels Arrived at North Sydney, &c.—*Concluded.*

Date.	Name of Vessel.	Master's Name.	Tonnage.	Men.	—
May 11..	Pin Barnada.....	Lefrance.....	49	18	Seeking bait.
" 15..	Paulaise.....	Maillard.....	52	20	" "
Aug. 29..	Pandosa.....	Georgois.....	36	14	" "
Oct. 23..	".....	".....	36	14	" "
Sept. 25..	".....	".....	36	14	" "
May 15..	Rose L.....	Tessel.....	44	19	" "
June 2..	".....	".....	44	19	" "
May 15..	St. Martin.....	Poveny.....	67	20	" "
" 22..	Sperenza.....	LeGrand.....	34	16	" "
" 22..	Suretive.....	Comandetu.....	32	18	" "
Sept. 18..	St. Martin.....	Poirier.....	68	20	" "
Oct. 9..	".....	".....	68	20	" "
" 9..	St. Pauline.....	Millard.....	52	20	" "
April 28..	Union.....	Madouett.....	50	16	" "
May 30..	".....	".....	50	16	" "
Oct. 11..	".....	".....	50	16	" "
May 11..	Vigilant.....	Levesseur.....	48	17	" "
" 11..	".....	Gauts.....	153	27	" "
Sept. 30..	".....	Levesseur.....	48	16	" "
" 27..	".....	".....	48	16	" "

LIST of United States Fishing Vessels which have entered Canadian Ports for the year ending October 31, 1905; showing net tonnage, crew and the number of times each Vessel entered the several Ports.

Number.	Name of Vessel.	Net tonnage.	Number of Men.	Arichat.	Barrington.	Canso.	Georgetown, P. E. I.	Halifax.	Liscombe.	Liverpool.	Lockeport.	Louisburg.	Lunenburg.	North Sydney.	Port Hawkesbury.	Port Hood.	Port Mulgrave.	Shelburne.	Souris, P. E. I.	Whitehead.	Yarmouth.	Total Entries.
1	A. E. Whyland.....	96	19	1		4	1							3	1						4	14
2	A. M. Neckerson.....	100	23					1			1			1								3
3	A. T. Gifford.....	58	14															1				1
4	Admiral Dewey.....	78	18					2							1							3
5	Agnes.....	75	18	1											5		1	1			1	10
6	Agnes E. Downs.....	59	19			2														2		4
7	Agnes V. Gleason.....	44	17			1	2		1							1		2				7
8	Alameda.....	64	15	1																	1	2
9	Aleina.....	57	18															2			1	3
10	Alcoyne.....	87	15												1		2					3
11	Aleide R. Lawson.....	85	14	1		1	1							1			1			2		9
12	America.....	99	20				1					2	1	1	1							6
13	Angelina.....	40	15																		1	1
14	Annie Greenlow.....	69	17				2					2							1			5
15	Appomatox.....	47	10								5											5
16	Arabia.....	86	17							1	1	1		1	1						3	7
17	Arbitrator.....	72	18			3		1	1		1											6
18	Arbutus.....	84	18						3													3
19	Arcadia.....	90	18			1		1	1	1												4
20	Argo.....	79	18	1		3					1			2	1						2	10
21	Arkona.....	97	18								1											1
22	Arthur Binney.....	112	18				1	1		3		2						2				9
23	Arthur D. Story.....	75	15															2				3
24	Arthur James.....	97	18			1	1				1											3
25	Arthur V. S. Woodruff.....	155	28											1				1				2
26	Atlanta.....	74	18			2	1				1					1		1				7
27	Avalon.....	85	18				1				2								1			4

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LIST of United States Fishing Vessels which have entered Canadian Ports for the year ending October 31, 1905, &c.—*Continued.*

Number.	Name of Vessel.	Net tonnage.	Number of Men.	Arischat.	Barrington.	Canso.	Georgetown, P. E. I.	Halifax.	Liscombe.	Liverpool.	Lockeport.	Louisburg.	Lunenburg.	North Sydney.	Port Hawkesbury.	Port Hood.	Port Mulgrave.	Shelburne.	Souris, P. E. I.	Whitehead.	Yarmouth.	Total Entries.
28	Belle Franklyn	52	15	3																		3
29	Bertha D. Nickerson	89	18	2										1	1						2	6
30	Bertha May	50	16	3																		3
31	Bertha and Pearl	77	18							1				1						2		4
32	Bessie M. Devine	91	18								1									1		1
33	Blanche	78	18								1											3
34	Blue Jacket	86	18	5		1				2				1	1		1				2	13
35	Bohemia	86	21	1	4					4				4	1						4	14
36	Buena	66	19	1						3												4
37	Canopus	47	14															1			2	3
38	Caroline Vought	48	13															1				1
39	Carrie M. Babson	91	16											3								3
40	Catherine Burke	92	21	1														3			2	6
41	Catherine G. Howard	83	20		1		1								1		1				2	5
42	Cavalier	96	20	3											1	1		1				5
43	Centennial	98	18		1						1				1	1	1	1				4
44	Claudia	79	18	2			1			1				1				2				7
45	Colonial	79	18		1						3			1							1	6
46	Columbia	89	18				1							1			1				1	4
47	Constellation	89	19		3		1															4
48	Corona	82	17							1												1
49	Corsair	79	18		2		1	1			1			1	2						1	8
50	Cosmos	25	10																			1
51	Dauntless	91	18		1		1	1		1												4
52	Diana	89	18			2					2			1								5
53	Dictator	92	22		1		1			1					1	1					2	7
54	Dora A. Lawson	93	18	1						1		1			2						1	5
55	Edna Wallace Hopper	92	18				1				1			2					1			5
56	Edward A. Rich	54	17																			1
57	Edwin B. Holmes	49	13									1		1								2
58	Effie M. Morrissey	83	25		2																3	5
59	Eglantine	69	18															2				2
60	Elector	84	20		2		1				1			2	1			1		1	3	12
61	Electric Flash	80	18		5		1	1				2						1				9
62	Elizabeth H	102	20		2													1				3
63	Ella M. Goodwin	86	22					4	5					1				2				12
64	Ellen C. Burke	60	19	1	1									1				2			3	8
65	Ellen F. Gleason	42	18		1					1								3			1	6
66	Elmer E. Gray	84	22	1														1				2
67	Elva L. Spurling	50	11																			1
68	Emily Cooney	44	18															1				1
69	Emma D.	127	26																		1	1
70	Emma E. Nitherell	81	21		5						4			1								10
71	Emma N. Brown	73	17							1	1							1				1
72	Essex	84	19		4					1	1			1	1			1			3	12
73	Fane	88	18							1												1
74	Fanny Bell Atwood	82	22		1							1										2
75	Fanny E. Prescott	87	22		1							2						1				4
76	Faustina	78	18				2					2								1		5
77	Flirt	82	21	1	1									4	1							7
78	Flora	36	13		1																	1
79	Flora S. Nickerson	73	23															2			1	3
80	Frank G. Rich	72	17		1												2			1		4
81	Freddie N. Alton	67	15		1																	1
82	George Parker	100	18									2										2
83	Georgie Campbell	78	18	2	2		1							2								8
84	Gertrude	56	18							1											1	2
85	Gladys and Sabra	70	16							1												1
86	Gladiator	75	18		6		2					5		2				1		1	2	19
87	Gladstone	74	14		4									1							2	7
88	Golden Rod	98	18							1		2								1		4
89	Gossip	92	18					1						2		1					2	6

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LIST of United States Fishing Vessels which have entered Canadian Ports for the year ending October 31, 1955, &c.—*Continued.*

Number.	Names of Vessel.	Net tonnage.	Number of Men.	Arielat.	Barrington.	Canso.	Georgetown, P. E. I.	Halifax.	Liscombe.	Liverpool.	Lockeport.	Louisbourg.	Lunenburg.	North Sydney.	Port Hawkesbury.	Port Hood.	Port Mulgrave.	Shelburne.	Souris, P. E. I.	Whitehead.	Yarmouth.	Total Entries.
152	Margarette	107	20				1				1			2							4	8
153	Marion E. Turner	45	14															5			4	9
154	Marsala	76	17						1													1
155	Mary E. Hart	77	18					3														3
156	Mary T. Curtis	85	20				2			2		1						3				8
157	Mary G. Power	95	26							1				2	2							5
158	Mary Lee Newton	92	15				1										2					3
159	Mary T. Tatton	50	16												2		1	2				4
160	Maryland	86	20				1							2	1		1			1	2	8
161	Moscouoma	96	18															1				1
162	Massachusetts	102	20				2			1	1						1		1			5
163	Matchless	73	20						1	1						1		1			1	5
164	Mattakeessett	77	18				4		1									1	1			7
165	Mattie Winship	73	15							1								1		1		3
166	Maud M. Story	53	12					1										1				2
167	Maxime Elliott	75	20				1	1	1					1					1	1		6
168	Metamora	81	23		1					1								4			3	9
169	Meteor	96	20								1			3								4
170	Mildred Robinson	86	20				2			3								1			1	7
171	Mildred V. Nunan	43	16															2				2
172	Mina Swim	60	15		1													1			2	4
173	Miranda	76	17				1				1								1			4
174	Monarch	92	21				2				1						1					4
175	Monitor	100	20				1	2	3	1	2	1	3					3	2	1	19	4
176	Mooween	83	23									1		1	1			1		2		5
177	Movanam	82	23							1		1										2
178	Muriel	83	23				1							1				3		1		6
179	Mystery	78	22									1						1		1		3
180	Natalie B. Nickerson	68	24					1			1											1
181	Natalie J. Nelson	78	23					1			1	1						2				7
182	Nellie Dixon	68	19															3			2	8
183	Niagara	78	18							1								1				1
184	Nickerson	39	9															1				1
185	Norma	77	18				2			2												4
186	Norrumbega	91	18				1				1							1	1			4
187	Nournakal	86	18				1	1		1	1								1			5
188	Olga	77	22				1	1		3					1							6
189	Oliver F. Killam	73	16															1				1
190	Olympia	50	17		6																2	8
191	Orato	105	22				2		1	1								1			1	6
192	Oregon	79	20				2	1	2		1			4				3			2	15
193	Orinoco	88	20		1		1		2	2					1							9
194	Orpheus	73	18				1							1								3
195	Paragon	88	22					1							1			2		1		7
196	Parthia	77	18	3							2					1		2			1	10
197	Patrician	93	18					1			1			1				1	2			6
198	Patriot	58	14															1				1
199	Pauline	51	14											1				1				2
200	Portia	69	18																		1	1
201	Preceptor	89	23				1			1							1	5				8
202	Priscilla Smith	89	18					2			1	1		5					5			14
203	Puritan	62	17				3	1			1			3	1			2		3		14
204	Quannapowett	76	20		2																	2
205	Quick Step	75	20															2			15	17
206	Ralph E. Eaton	64	15		1																	1
207	Ralph F. Hodgdon	59	16							1		1	2									4
208	Ralph H. Hall	91	19				3	3			3								2			11
209	Ralph Russell	48	17				1		1	1	2											5
210	Rapidan	26	9		1																	1
211	Rattler	78	15												2							2
212	Rebecca	49	16				1			1										2		4
213	Rena A. Percy	46	14							1					1							2

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LIST of United States Fishing Vessels which have entered Canadian Ports for the year ending October 31, 1905, &c.—*Concluded.*

Number.	Name of Vessel.	Net tonnage.	Number of Men.	Arrivat.	Barrington.	Canso.	Georgetown, P. E. I.	Halifax.	Liscombe.	Liverpool.	Lockeport.	Louisburg.	Lunenburg.	North Sydney.	Port Hawkesbury.	Port Hood.	Port Mulgrave.	Shelburne.	Souris, P. E. I.	Whitehead.	Yarmouth.	Total Entries.
214	Richard Wainwright	98	20	...	...	3	...	1	1	...	1	2	2	1	2	...	...	...	...	...	1	12
215	Robin Hood	65	15	...	...	2	...	...	...	...	...	...	...	1	2	...	...	...	...	...	...	5
216	S. F. Maker	78	18	...	...	2	1	3	...	1	2	2	2	2	...	...	...	...	3	1	...	15
217	S. P. Willard	89	18	1	...	1	...	...	...	2	...	...	...	...	...	...	...	1	...	...	...	6
218	Saladin	81	19	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	2
219	Samuel R. Crane	78	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	11	12
220	Sceptre	91	18	...	...	3	...	1	...	...	...	...	...	...	...	...	...	...	...	...	2	6
221	Selma	87	22	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2
222	Senator	74	18	2	...	2	...	2	...	1	...	2	...	...	...	1	1	...	...	...	...	11
223	Senator Gardener	94	19	...	1	...	...	...	...	...	...	...	...	2	...	...	...	...	...	3	6	
224	Senator Saulsbury	97	18	2	...	1	...	...	...	...	...	3	...	5	2	...	1	...	1	...	...	15
225	Sheffyl	61	16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	5
226	Shenandoah	69	18	...	...	2	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	3
227	Slade Gorton	88	22	...	2	...	1	2	...	1	...	1	...	...	...	...	...	1	...	...	...	8
228	Smuggler	91	18	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	2
229	Speculator	77	18	...	...	...	...	1	...	...	...	...	...	...	...	...	...	2	...	...	...	3
230	Squanto	95	18	2	...	1	...	...	...	1	...	...	...	...	2	...	1	...	...	...	...	7
231	Stranger	28	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
232	Susan and Mary	83	23	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	2
233	T. M. Nickerson	90	20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
234	Tacoma	71	18	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1
235	Talisman	88	18	...	...	...	...	...	...	3	...	1	...	3	...	...	...	...	...	...	...	7
236	Tartar	88	22	...	1	...	...	...	...	2	...	...	...	...	1	...	...	1	...	...	...	5
237	Tattler	135	22	...	...	...	...	...	...	1	...	...	...	2	...	...	...	...	...	...	...	3
238	Thalia	78	14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	5
239	Theodore Roosevelt	90	18	...	3	...	3	...	...	...	...	...	...	1	1	...	1	...	...	...	1	10
240	Titania	77	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	10	11
241	Underwriter	63	15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	5
242	Valkyrie	106	18	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	3	5	5
243	Vera	77	18	1	...	...	...	9	...	1	...	...	...	...	...	...	...	...	1	...	...	12
244	Vesta	75	15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2
245	Victor	75	18	...	1	...	3	...	1	...	...	...	...	3	...	...	...	1	2	...	...	11
246	Vida McKeown	83	18	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	1	...	...	4
247	Vigilant	56	13	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
248	Volant	96	19	...	1	1	...	1	1	...	...	...	...	...	...	1	2	...	...	...	2	9
249	W. C. Harding	83	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
250	W. H. Moody	48	14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
251	W. L. Stevens	81	18	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
252	Walter M. Young	86	15	...	1	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	3
253	William E. Morrissey	93	18	...	1	...	2	...	...	...	...	3	...	1	...	...	...	...	...	...	2	9
254	William H. Ryder	45	12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
255	William Matheson	72	16	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	2
256	Winnifred	60	20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	3	4
257	Yakima	76	18	...	1	1	2
Total.....		19847	4637	45	33	197	2	106	38	102	15	115	13	143	66	2	35	156	11	40	220	1333.

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ANNEX A.

OFFICERS' REPORTS.

REPORTS OF THE COMMANDERS OF CRUISERS.

C. G. S. 'CANADA.'

HALIFAX, N.S., December 27, 1905.

To Commander O. G. V. SPAIN, R.N.,

Officer Commanding Marine Service of Canada.

SIR,—I have the honour to forward to you a report of the work performed by the C.G.S. *Canada*, the ship under my command, during the season just closed.

During the month of January, this ship was lying at the Marine and Fisheries wharf, Halifax, N.S., undergoing repairs to deck and engine room departments, preparatory to a cruise in southern waters about the middle of that month. Crew was signed on: Articles and all was made ready, and on February 1, by your order, we proceeded to sea, cruising westward, calling at Shelburne and Pubnico. At the latter place, you boarded and inspected the ship and ship's company, and handed me instructions and necessary drafts on Bank of Montreal to cover expenses during the voyage, also letters of introduction to the governors of the different islands we were to call at. These letters were signed by His Excellency Earl Grey, Governor General of Canada. We then returned to Shelburne for clothing, which you instructed me to take (our own not being ready) and on the morning of February 7, we proceeded to sea—strong westerly—ship heading southward, towards Bermuda, our first port of call. Midnight, heavy N.N.W. gale and snow, the little ship making excellent weather. At 6 p.m. on the 9th, we picked up by wireless at about 40 miles distance, H. M. S. *Terror*, receiving ship at the dockyard, Bermuda. Midnight, heavy rain and fresh southerly weather. On the morning of the 10th came to anchor off the dockyard. Here we found the Dutch gunboat, *Kortenaer*, which I boarded and extended usual courtesies. This call was returned in due order by the commander. We remained at Bermuda several days, during which time I paid my respects to the governor and other dignitaries, which were all returned in due form. We were supplied with bunker coal by Captain Leah, the officer commanding at the dockyard, at cost, also with fresh water from their water-boat, without any charge. This, I consider, exceptional good treatment. I found all the Imperial officers, both naval and military, to be most cordial and ready to assist in every possible way. I do not wish to be understood that this kindness particularly applies to Bermuda more than to any of the other places we called at, as I was accorded the same kindness at all the islands I had the pleasure of visiting.

Our next port of call was Nassau, where we spent a few days. Called upon the chief administrator and was well received. We cruised from Nassau through Crooked Island passage, southward between St. Domingo and Cuba, reaching the beautiful harbour of Kingston, Jamaica, on February 25. Here, we found Vice Admiral Bosanquet, with four ships of his fleet. I boarded the flagship, paying my respects to the admiral, who received me very cordially, conversing freely on different subjects. This call was returned by Flag Captain Moore.

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On March 4, after taking bunker coal and usual formalities were ended, we proceeded to sea, cruising eastward up the Caribbean sea, facing a strong N.E. trade wind with sharp sea, and arrived at Bridgetown, Barbados, on the 9th. Here we found several square-rigged ships, quite an unusual sight. Some of them were here for repairs, while others were for orders. There are quite a number of steamers of different lines calling at this port. As usual, I paid my compliments to the governor, also to General Dixon, the officer commanding the Imperial forces on this island. My call on the governor was returned by his A.D.C. General Dixon personally returned the call, and on his leaving the ship we gave him a salute according to his rank.

We next proceeded to Port of Spain, Trinidad. Here we found the Italian gunboat *Dogale*, Captain Ronkie, which I boarded, extending courtesies which were duly recognized. We took coal and water at this port, as we did at Jamaica.

We next proceeded towards Grand Turk via Mona Passage, arriving there after three days' pleasant run. Here we remained thirty-six hours.

We next arrived at Nassau, where we were called upon by the governor, and on his leaving we saluted him with seventeen guns. I afterwards dined at government house. We found everything very pleasant at this port, but I must remark that coal is very high, \$8.50 per short ton, and water three cents per gallon. After remaining here a few days we proceeded to Bermuda, arriving there on April 7. Here I received your cablegram instructing me to remain at Bermuda for a period, taking gun practice, which was carried out. The entire cruise was much enjoyed, while every available hour was spent in training the crew in the following: Maxim quick-firing gun, rifle and revolver drill, hand flag and semaphore signalling, pipe and bugle calls and Marconi wireless telegraphy. In each branch good progress was made. The recruits showing the greatest interest in the work; these young fishermen with care and attention are equal to any sailors in the world. The practice with the automatic quick-firing guns, firing at a target when the ship was under way, was very successful.

After my return we immediately took up the fisheries protection service work on the Nova Scotia coast, being with the United States mackerel fleet between Sambro and Cape North, C.B., from May 25 to June 15. On June 25 we laid up at Halifax for repairs in engine room and deck departments, placed ship on marine railway, cleaned and painted bottom and after completion of this work we proceeded to North Sydney, as per your instructions, to transfer mails from ss. *Virginian* to I.C.R. terminus at North Sydney, which was very successfully done on July 13.

After this, by your order, I took up the general fisheries protection service work again on the Nova Scotia coast, enforcing the fisheries laws as laid down in Acts.

Here I must refer to a cruise over to New Brunswick, where I met the C.G.S. *Curlaw*, off the Wolves light on October 7, and from thence proceeded with her to Welchpool, where we came to anchor at midnight. Next day we proceeded to St. Andrews, and having spent one day there we proceeded and came to anchor off the city of Eastport, U.S. The following day we returned to Campobello, where I opened the ship to the school children for a space of two hours.

We next proceeded to St. John, where we took in coal and water, weather being very disagreeable. Our agent, Mr. Harding, called on board.

We next proceeded to Halifax, arriving there on the morning of October 4. The following day I met at the North street I.C.R. station, the Honourable Raymond Préfontaine, Colonel Gourdeau, deputy minister, and yourself, and conveyed you all on board the *Canada*. After a thorough inspection of the ship, it gave me and my officers great satisfaction and pleasure to know that the Honourable the Minister, the Deputy Minister and yourself were so well pleased with the appearance and condition of the ship. The Honourable the Minister was received on board by a guard of honour, and after leaving the ship's side was saluted with 11 guns.

We afterwards continued our cruising off the Nova Scotia coast until November 10, being in company with United States seiners.

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On November 10, we came in for repairs in engine room and deck departments, and on December 16 we placed ship on marine railway, after having her bottom cleaned and painted she was taken back to the marine and fisheries wharf, where she is at present moored.

The season's work in protecting the fisheries has been rather uneventful, as there were no violations of the treaty.

I have the honour to be, sir,

Your obedient servant,

C. T. KNOWLTON, Capt.,

Commanding C.G.S. 'Canada.'

C.G.S. 'VIGILANT.'

WALKERVILLE, ONT., December 12, 1905.

Capt. O. G. V. SPAIN, R.N.,

Commanding Canadian Marine Service.

SIR,—I have the honour to present to you my annual report of the work performed by the C.G.S. *Vigilant*, under my command, as follows:—

On April 22, the ship was placed in commission, and at 8 a.m. departed for Amherstburg and took on board supplies during the afternoon. On April 24, the regular patrol of Lake Erie was established, and on this day I seized 118 American gill-nets about five miles north of boundary, and about eighteen miles east of Pelee island. On May 24, Victoria day, not having a gun, could not fire a royal salute. On that day I left for Ottawa by your instructions and waited upon the Deputy Minister of Justice with reference to the *Kitty D.* case. On June 4 departed for Cleveland to have the compass adjusted, which was done the next day by Capt. Morrison. On June 7, sighted a tug away to the north of the boundary line; ran north and met her. She proved to be the tug *Grace M.* The captain refused to surrender, and in attempting to escape was run down by the *Vigilant*, and two men were drowned; the captain, engineer and one man were rescued. The tug still lies at the bottom of the lake. The captain of the tug, Wm. Galbraith, afterwards acknowledged that he alone was to blame for the disaster. On the 12th, with yourself and Mr. B. Fraser on board, we departed from Port Colborne, and at 7 o'clock the following morning arrived at the wreck of the *Grace M.*, where angles were taken to verify the location as given by me, which was found correct. Thence to Windsor, where yourself and Mr. Fraser left the ship. On the 14th Henry Hamilton, a diver and his assistant, were taken on board, and on the 15th went down to the wreck of the *Grace M.*, which was found to be less than five hundred feet from the buoy placed by me, and from which you took angles. On July 1 by instructions lying at Port Dover to assist the citizens in celebrating the day. Dressed the ship, but lacking a gun, we fired a feu-de-joie with rifles. On the 14th, Albert McFadden, a seaman, was accidentally drowned whilst assisting to hoist one of the boats to the davits. On August 29, at Kingsville, took on board W. D. Allen, Inspector of the Meteorological Service of Canada, and landed him at Pelee island. On September 12, off Long Point, about midway between the two lights, and six and a half knots from shore, I cut off and seized the American fishing tug *Bertha L. Cockell*, of Erie, and towed her to Port Stanley, giving her in charge of the customs officer there. The crew was detained until interviewed by Mr. John Farley, K.C., on behalf of the department. On the 14th I seized thirty-five American gill-nets off Long Point, five miles from shore. On the 15th I seized the American fishing tug, *E. C.*

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Oggell, of Erie, which was cut off some eight knots south of Long Point at a point five and a half miles west of Long Point light, together with nets and fish. I took the tug and contents to Port Dover and placed her in charge of the Customs Collector there. On the 17th sighted a tug well over in our waters, tried to cut her off but failed; fired a number of rifle shots at the tug, but they paid no attention, and not having a gun, I could do no more than chase her for the purpose of finding out the name of the tug. Upon overhauling her, found her to be the *Harry L. Barnhurst*, of Erie. Returned north and seized 76 nets which contained nearly one and a half tons of fish. On the 18th I seized sixty-three nets containing a quantity of fish; both nets and fish were in bad condition and were sold as they were. On the 28th I seized thirty-two nets belonging to the Booth Fish company, some distance north of the boundary line and nearly opposite Dunkirk. On the 29th I seized twelve nets, part of two gangs which had been hurriedly left by American tugs. Afterwards took up another gang of nets, which had been in the water so long that the fish were very badly decayed; cut off the floats and allowed nets to sink so that they would not fish. On the 30th stopped at wreck of American barge *Tasmania*, and took angles for the purpose of locating the wreck, which was reported. On November 13, near Bass islands, I seized 20 American gill-nets containing a small catch of whitefish. The same day I investigated with reference to a report of trap-net fishing at Middle Island. I found part of one trap-net in the water and saw others near the lighthouse. Fishing had evidently been done, and if not by the lightkeeper it was with his knowledge. On November 22 I seized 27 American gill-nets near the Hen and Chickens Islands, containing a small quantity of fish.

After the seizure of the last tug and the part the American government took in the preventing of poaching by her citizens, the fishermen became very much more careful and they have found the speed of the *Vigilant* is not of the *Petrel's* stamp.

When testing her at her utmost speed she made nine knots in thirty minutes; that is eighteen knots an hour, $\frac{3}{4}$ of a knot over contract speed.

The fishing was generally light on Lake Erie during the past season, although fair catches were made off Port Maitland and Port Dover, the rest of the lake being light.

During the season the ship logged 14,270 miles.

I have the honour to be, sir,

Your obedient servant,

E. DUNN,

Commanding C.G.S. '*Vigilant*.'

C.G.S. '*CURLEW*.'

St. JOHN, N.B., December 19, 1905.

To Commander O. G. V. SPAIN, R.N.,
Commanding Marine Service of Canada,
Ottawa.

SIR,—I have the honour to submit to you herewith my annual report for the past season of 1905, showing the various duties performed by the *Curlew*, in her cruises along the coasts of New Brunswick and Nova Scotia.

During the unusually severe winter of 1904 and 1905 we occupied our winter quarters in the York Point slip here, where a thorough overhauling was given the ship's machinery and boilers, with minor repairs to the ship's hull, and on the middle of April she was ready for any duties that might be required of her.

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During February I was ordered to Ottawa to give evidence before the Fisheries Commission, whose members were assembled there completing their responsible labours and drafting their final report to the department, which will no doubt contain information and recommendations that cannot fail to be of immense benefit to our valuable fisheries.

On April 20 the ship was placed in commission, taking bunker coal on the 22nd, and on Sunday, 23rd, we cruised down the bay and landed a departmental engineer at Point Lepreaux fog whistle, where extensive improvements were being made that would render navigation in the surrounding waters much less dangerous than in the past. We then commenced cruising to the various fishing villages in the bay, conferring with the numerous fisheries officials, issuing the annual fishing licenses, and found that all the fishermen were preparing for the coming harvest that they expected the year had in store for them. Now that the fishing season has ended, I am pleased to state that those hardy toilers of the deep have been amply rewarded for their efforts.

The patrol boat No. 2 was taken from her winter quarters at Harbour-de-Lute on May 4, refitted thoroughly and began her cruising for the season. In those winter quarters I selected for her, she safely weathered the heavy winter storms, moored among a large number of yachts, which was preferable to the expense and labour incurred in hauling her out of the water, as had been done in previous years.

Taking her in tow we proceeded to Grand Manan, where we procured the services of the local officer and thoroughly examined all the lobster cars of that island. We left the patrol boat there under the control of this officer, in order that the valuable lobster fisheries of that rocky island might have thorough protection.

Considerable work with buoys was performed at St. Andrews and vicinity in latter part of May; new buoys were placed in position and painted, and the usual 'Notices to Mariners' were issued regarding them. Those buoys are acknowledged by all seafaring men in that vicinity to be of inestimable value to those navigating in those waters.

At Bocabec, on June 2, where some fishing complications had arisen, we had the pleasure of a visit from the C.G.S. *Constance*, and accompanying her to the Ledge, St. Croix river, we assisted Capt. May in investigating some customs matters at St. Stephens. We reluctantly parted company from Captain May on the 4th instant, when we sailed for St. John.

Fisheries work of various kinds fully employed our time till July the 23rd, when in obedience to your orders we began a cruise along the southern coast of Nova Scotia. Next evening we anchored inside of Cape Sable, and at Liscombe on the 27th, with a view of shipping a complete crew of Canadian fishermen to replace the representatives of European nationalities that then composed our crew. Shipping part of our crew at Liscombe on July 28, we then steamed to Beckerton and secured the remainder, and proceeding at once to Halifax, discharged the former crew.

After watering and bunkering on August 1 here, we resumed our cruise along the coast to the westward, calling at Lunenburg, and Lockeport, arriving at Shelburne, where your orders to assist at the town's regatta were carried out to the best of our ability, and I feel assured we gave the committee every satisfaction. A splendid programme of races was carried out on the harbour during the week, but our gig's crew were much disappointed at not having the expected opportunity of showing their ability at rowing, on account of the non-arrival of one of the other cruisers.

On the 12th instant, we received telegraphic information that numerous attempts at dynamiting fish had been successful on the Canadian side, in the waters of the Passamaquoddy, which necessitated my returning there without delay, and next morning we began our westward cruise, anchoring at Campobello, where the reports came from, before daylight on August 14.

Putting a complete stop to this nefarious practice of dynamiting pollock that had become so frequent, particularly in the State of Maine side of the boundary line, almost completely occupied our time till August 25. All the persons using this explo-

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sive were residents of Eastport and its vicinity, and not content with using it among the schools of fish in United States waters, when the opportunity presented itself by an officer being absent, they would wander across the line into Canadian waters and dynamite our schools of fish.

Various duties occupied our attention till September, when it was ascertained that poaching was being attempted on the spawning grounds of Grand Manan. The launch was taken over there on September 5, and placed at the duty of protecting the valuable herring spawning beds there, with the local fishery officer to control her movements.

Examining the lobster and other fisheries, and investigating several complaints, kept us busy at Grand Manan till the 9th, when we again returned to the mainland. We found illegal lobster fishing was being attempted at Latete and other places, and during the latter part of September a number of traps were broken, which checked the illegal fishing at those places. The *Constance* was again fallen in with, and three illegal lobster fishermen were detected at Lubec Narrows on October 5, whose traps and cars were destroyed and the fishermen fined.

On October 15, at midnight, we made an unexpected visit to the Magaguadavic river, where a large number of vessels swung at anchor engaged in herring fishing, and two vessels, with several small boats and seines, were seized. Two men were fined \$100 each, and a number of fishermen disappeared suddenly to avoid arrest. This move on our part effectually stopped the illegal fishing, and on the 21st instant we cruised to Grand Manan, receiving from the fisheries officer our launch who reported that he had succeeded in putting down all illegal fishing in his district by his vigorous use of the launch.

Bunkering and blowing off boiler at St. Stephen occupied our time at the end of the month, and on returning to St. Andrews on November 3, we assisted the steamer *Lansdowne* in towing a block outside the harbour, on which the new lighthouse is to be placed. On the following day we again assisted the *Lansdowne's* crew in ballasting same, and also at the same work on the 9th.

As many attempts were now being made in various parts of the district to fish lobsters, means were required to be taken to bring the law breakers to justice, which fully occupied our time till the end of the season. The collection of bounty claims from the fishermen was also commenced at that time, and as the end of the season was fast drawing to a close, the work on both was carried on simultaneously, and lobster fishing received a severe check. Several fines of \$100 each were imposed on those whose business was to buy the lobsters from the fishermen, and those engaged in fishing were fined from \$25 to \$50 each. All the fines imposed have been collected.

At Grand Manan island the collection of bounty claims was begun on November 11, every village in the district was visited where the fishermen had any legal claim to the bounty.

On Friday, the 15th instant, one patrol boat was taken to Harbour-de-Lute, Campobello and placed in the same admirable winter quarters as last season, and bounty claim collection was completed in Charlotte county by receiving claims at Wilson's beach on Saturday night, December 16. Before daylight on the 10th instant, the waters of the Passamaquoddy were finally left for the season of 1905, and arriving in St. John, the ship was placed in her usual winter quarters on that day. On the following day the ship was placed out of commission, the crew being paid off, with the exception of the engine room staff, who were retained on board to make the usual winter repairs to machinery and boiler.

In conclusion, I am pleased to report that all the fisheries of my district have been up to the average, the salmon fisheries off the coast of St. John, for example, being better than they have been for many seasons.

The dogfish were not as troublesome as in former years, which fact has been a great cause for rejoicing among our line and trawl fishermen. In previous seasons when those pests of the ocean became too troublesome, our fishermen would have to lose

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considerable time, besides a vast amount of fishing gear, but now it is confidently hoped that those voracious creatures are surely, if but slowly, disappearing.

I am, sir,

Your obedient servant,

JOHN H. PRATT,

Commanding 'Curlew.'

Capt. Pratt also reports as follows on the work performed by the patrol boat attached to this ship during the season now closed, which will show to you how convenient and useful those launches are in connection with the work of protecting our valuable fisheries from depletion by their enemies, whose thoughts, in the majority of instances, are of the present and seldom of the future.

This launch was laid up for the winter in Harbour-de-Lute, Campobello, where a large number of small craft were wintering, and a better place could not be selected for winter quarters.

She was brought alongside the *Curlew* on May 4, and on that day and the 5th she was put in thorough order for her season's work, and taking her over to the island of Grand Manan she was placed at work there to protect the valuable lobster fisheries of that island. She was kept busy cruising in Grand Manan waters till the middle of June, when her services being required on the mainland, she was brought over to Campobello.

While the dynamite fishing was at its height in the waters in the vicinity of Eastport and Lubec, by the use of the launch the shoal waters along the Maine shore were patrolled, with the United States officer on board, and three Eastport dynamite fishermen were detected by us. These were summoned before an Eastport magistrate, who had very little mercy on them and sentenced them to pay a fine of \$200 each, with six months' imprisonment.

On September 4, the launch was taken to Grand Manan on account of attempts at poaching on the herring spawning grounds at Southern Head, and the local fishery officer took charge of her in the patrol work there. Although the herring playing on the 'Rippings' at Grand Manan were more plentiful than they had been for twenty-five years, the herring within the spawning ground limits were quite scarce. Some attempts at poaching were made, but the daily and nightly cruising of the patrol boat rendered the poachers' work quite unsuccessful and dangerous.

On October 15 the spawning grounds became legally opened to public fishing, and on steaming to Flagg's Cove on the 22nd, the *Curlew* conveyed us to Campobello, where we put a stop to illegal seining and lobster fishing. We made several midnight trips to Magaguadavic river, and these unexpected visits tended to make illegal fishing very unpopular.

On November 18 the sloop *Mascott*, charged with a violation of the customs regulations, was seized at Leonardville and towed to Lord's Cove by the launch which laid by her till December 9, awaiting the decision of the department in her case. After assisting the *Curlew* for a few days in bounty collection, the launch's hull was caulked at Welchpool, and on December 15 she steamed to Harbour-de-Lute, and all details on board were arranged for laying her up in her winter quarters. Mooring her safely to the new rock we had placed there, she was put out of commission for the season of 1905. The patrol boat is in first-class condition and no repairs will be required on her in the spring.

Commander O. G. V. SPAIN, R.N.,

Commanding Marine Service of Canada,
Ottawa.

SIR,—I have the honour to submit to you a report of the work done by the D.G.S. *Osprey*, under my command during the season of 1905.

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Having received previous instructions from you to commission the *Osprey*, about the first of May I proceeded to Shelburne and arrived at that place April 18, where I superintended the cleaning, painting and general fitting out of the ship.

May 16, having finished fitting out ship and all stores on board, I engaged what crew were available there and commissioned ship.

May 17, unmoored ship and anchored in the stream, where we were detained by calm foggy weather until the 20th, when we proceeded to sea, cruising eastward. P.M. same day, fell in with the United States seining fleet working to the eastward.

May 21, arrived in Halifax in company with 18 United States seiners and boarded them the same evening.

May 23, proceeded toward Port Hood to fill up complement of crew. Called at the various ports on the way and inspected the different lobster factories.

May 27, arrived at Port Hood and communicated with Mr. Ancoin at Cheticamp, who supplied me with five more seamen.

June 1, received instructions from you that there was illegal fishing reported in the vicinity of Meat Cove, Cape Breton. I proceeded there immediately, cruising along the south and east coast of Cape Breton. June 2, arrived at Meat Cove, found no signs of illegal fishing in that vicinity. Cruised back round the north side of Cape Breton and found no signs of illegal fishing anywhere along the coast.

June 5, arrived back to our station at Canso, where we fell in with the United States seining fleet, consisting of about 35 sail. June 8, called at Hawkesbury and had crew measured for uniforms; proceeded back on our station again and continued in company with the United States seiners, cruising between St. Esprit and White Head until June 17, when the last of the fleet sailed for home. Our time was then principally taken up visiting the different lobster factories, fish traps, &c., until June 24, when we proceeded to Port Hawkesbury to put ship on marine slip to clean and paint. 26th hauled on marine slip, 30th finished work on marine slip and floated ship and proceeded back on our station and continued attending to the various duties in connection with the fisheries.

July 11, had the misfortune to carry away our fore topmast, and receiving instructions from you to have it replaced as soon as possible, I proceeded at once to Shelburne, as there was no suitable stick to be had on our station.

July 31, proceeded to Sydney in company with D.G.S. *Minto*, *Petrel* and *Champlain*, and remained there in attendance on the vice-regal party until August 2, when we proceeded toward Bras d'Or lakes, in company with the D.G.S. *Petrel* and *Champlain*, with the intention of giving the vice-regal party a sail through the Bras d'Or lakes, but the wind died out and set in thick fog, and we had to abandon the cruise and proceed back on our station at Canso.

August 10, midnight, proceeded to sea again and arrived back on our station August 15, where we continued attending to the various duties in connection with the fisheries for the remainder of the season.

During the months of October and November we found that some of the lobster fishermen were putting lobster traps in the water, but I am pleased to say that the majority of the fishermen rendered us considerable assistance in putting a stop to this illegal practice. The following is a list of the traps destroyed during the season:—

October 30 destroyed 27 traps at Staring Reef.

November 3, destroyed 22 traps at White Head.

November 8, destroyed 12 traps at White Head.

November 21, destroyed 12 traps at White Head.

November 22, destroyed 12 traps at White Head and seized preserving utensils, and destroyed all other lobster gear found about the premises.

December 2, arrived in Shelburne and moored ship in winter quarters and landed all stores and gear, &c.

December 8, paid off crew and delivered ship over to Mr. Cox for safe-keeping during the winter.

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With regard to the season's fishing on this coast, the mackerel and lobster catch was small, there was about 40 United States seiners visited these waters in the spring but most of them made small fares, and only four United States seiners made their appearance for the fall catch, and they made small fares; other branches of the fishing was about an average catch, and with the good prices going the fishermen have done fairly well in the vicinity of Canso. Where they had the advantage of the cold storage and reduction works, the fishermen have made quite a profitable season.

The dogfish, which have previously been a pest, have proved quite a blessing to quite a number of our fishermen this season, and quite a number of swordfish were captured in the vicinity of Canso this season, which added materially to the season's fare.

I have the honour to be, sir,

Your obedient servant,

JOHN GRAHAM,

Officer in Command.

QUEBEC, December 23, 1905.

To Commander O. G. V. SPAIN, R.N.,
Canadian Marine Service,
Ottawa.

SIR,—I have the honour to submit the following report of the work accomplished by the revenue cruiser *Constance* during the season of navigation just closed. On January 23 my engineer and crew began the work of overhauling machinery and boiler and refitting, to be ready for the opening of navigation.

During the month of March the electric wires were repaired, new sidelights and masthead light were placed in position; also had the different living apartments thoroughly cleaned and painted. Messrs. Davie & Sons refastened iron shoe on keel, overhauled rudder and furnished new steering gear to replace the old, which was very much worn out. March 25, my officers and crew arrived on board, when work was commenced to scrape and paint ship.

On April 9, the *Constance* was safely launched from the yard of Messrs. Davie and steamed at once across river to the Louise basin.

On the 10th and 11th, received on board a supply of coal, fresh water and provisions. Signed officers and crew in ship's book, hoisted pennant and ensign and left port for sea on the morning of the 12th.

On April 13, we arrived at Point des Monts, where we landed the lighthouse keeper (Mr. Faffard) and family, that the *Constance* carried down by permission. Proceeding on down the gulf, we passed large quantities of ice off the Baie des Chaleurs and Miscou, arriving off Prince Edward Island on the evening of the 15th. Here we found the ice closely packed, apparently solid, in the straits of Northumberland.

After hovering along the edge of the ice until the morning of the 17th, and finding it impossible to make a passage through, we put back to Baie des Chaleurs and took shelter at Paspébiac, to wait further developments.

On the evening of April 24, received reports that the ice had broken up in the straits of Northumberland and that a passage through was thought possible. On receipt of this news we left Paspébiac at early dawn next day. Arriving off Sea Cow Head, P.E.I., we met ice in large quantities and on reaching within some fifteen miles of Pictou island, the ice was so heavily packed we were unable to proceed further, consequently we had to put back, and arrived safely at Charlottetown on the evening of the 26th.

On May 2, Capt. Finleyson, of the C.G.S. *Minto*, from Pictou, reported the ice had scattered considerably in the straits. Left Charlottetown early next morning, passed large quantities of ice in the straits, George's bay and the Gut of Canso, and anchored in Canso harbour same evening.

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On May 4, continued our way along the south coast of Nova Scotia, as weather and circumstances permitted arriving at Digby, N.S., on the 8th.

With Inspector Fred. L. Jones on board, we began our summer cruise at once about the Bay of Fundy, south coast of Nova Scotia and Cape Breton, visiting St. John, N.B., St. Andrews, St. Stephens, Eastport, Me., and places on the Bras d'Or lakes, making important investigations.

On November 27 placed *Constance* on Messrs. Davie's patent slip for the winter for the purpose of fitting on new propellers, new deck and for general repairs that may be required.

November 30, hauled down pennant and paid off all officers and men from further duty for this year, except engineers and men who remained to dismantle engine and remove old propeller, and leaving ship in charge of Watchman Dickey for the winter.

On December 20, engineer closed down work until further instructions.

In conclusion we experienced the usual amount of fog as other years, especially about Nova Scotia and the Bay of Fundy, frequently reaching well up the Gulf and River St. Lawrence. The season ending very cold and windy, otherwise fine.

Any vessels of a suspicious nature were boarded and searched, and the total distance made during the season was 12,254 nautical miles.

I have the honour to be, sir,

Your obedient servant,

GEO. M. MAY,

Captain.

REPORT OF MOVEMENTS OF C.G.S. 'LA CANADIENNE' DURING SEASON OF 1905.

La Canadienne began fitting out in the Louise basin, Quebec, on April 3, went into commission on the 25th of same month, and left Quebec next day for the gulf; passed through a good deal of ice between Quebec and the Traverse. On the 27th called at Godbout, where we took on Mr. Comeau, and continued down to English Point, where an inquiry was made into certain charges made as to the administration of the bounty claims for the subdivision. Herring was at the time plentiful along this part of the coast. From here we crossed to St. Anne des Monts, and began the erection of six sets of range lights, which we had brought down with us from Quebec. These ranges were erected at St. Anne, Mont Louis, Grand Valley, Chlorydorme, Fox river and Griffin cove. This work was finished at Griffin cove on Saturday, May 6. From here we continued to Percé and Gaspé, at which latter place we anchored at 5 p.m. same day. We had to work through some loose ice to get into harbour. We remained at Gaspé coaling and painting until May 10, when we left with the local F. O., Mr. Veit, on board to visit all the lobster canneries from Gaspé to the head of the Baie des Chaleurs. We distributed the lobster licenses to all cannerymen along this coast.

On May 13, when at Percé, received orders to proceed to East Point, Anticosti, and take off the light-keeper, who was ill. Left at once and had a dirty crossing with snow and rain. We got the keeper off on Sunday at 4.20 a.m., and left at once to return to Gaspé with him; landed him at Gaspé at 7.30 p.m. same day, Sunday, May 14.

Monday, May 15, left Gaspé at 9 a.m. for Magdalen islands. We reached Magdalen islands early next morning. We remained about the Magdalen islands, boarding vessels and visiting the lobster canneries, &c., till May 18, when we left for Miscou and the Baie des Chaleurs, on the 19th had a gale of easterly wind and snow flurries, ran up to Paspébiac for shelter, being unable to land anywhere along shore from Cape Despair up. On May 20, weather moderating, left for Gaspé, calling at canneries along shore; anchored in Gaspé at 3.15 p.m., Saturday. Left Gaspé again on Monday, May

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22, for East Point of Anticosti, taking back with us the keeper, who had recovered. Called at East point and Fox bay on the 23rd; no lobsters taken yet; herring were abundant. Next day, May 24, cruised to north coast at Esquimaux Point. Cruised along the north coast to Godbout, calling at all stations. Left Godbout for West Point, Anticosti, on May 29, and from here next day cruised to the south shore at Cap de Rosier, blowing a fresh nor'west, held on under Cape de Rosier till the 31st, when we left for Percé and Grand Pabos.

We remained at Quebec, and from the 15th until June 24, being fitted with two new and heavier davits to carry our steam launch. Called at Gaspé on the evening of June 25, and left next morning, the 26th, for Malpeque, P.E.I., to tow the biological scow to Gaspé. Reached Malpeque on morning of the 27th in a gale of east wind; got over the bar at high water and anchored inside. Were detained here until June 30, the scow not being ready. Reached Gaspé with scow at 4.30 a.m. on July 1, had to stop and pump the scow out at intervals all the way over. Coaled at Gaspé and left July 3, for the Labrador trip. Reached Natashquan on the evening of July 4, having had fog all the way over. From Natashquan we continued on down the Labrador shore to Blanc Sablons, called at all fishing stations and boarding all vessels met—about 300 all told, mostly fishing vessels from Newfoundland. We left Blanc Sablons on July 17, to return to the westward, calling at all stations, and issuing licenses, visiting and attending the sick, wherever asked to do so. On July 18, called at Flat island, off Bic Meccatina, and began landing steel frame and material for the Cove beacon to replace the former beacon, which had been delayed down. We completed the construction of the beacon by July 22, having been delayed by bad weather, and the difficulty of landing on the island; left at once for the westward, reaching Esquimaux Point on July 25, and crossing to the south shore anchored in Gaspé on the evening of July 26. On August 15 took Mr. Lafleur, chief engineer of Public Works to inspect the mouth of the Bonaventure river, returning to Carleton same evening where we landed the gentleman, and left at once for Caraquet which place we reached on the morning of August 16. Next day, August 17, at Carleton, and left for English bay, Anticosti; anchored off English bay at 6 a.m. on the 18th. Sunday, 27th, ran into Gaspé Basin; remained there till 7 a.m. on the 29th, when stood out of bay. At 10 a.m. off mouth of bay met C.G.S. *Minto* coming, she signalled us to return in company; we did so, and anchored in Gaspé at noon. Found the Honourable the Minister of Marine and Fisheries and the deputy minister on board, and party. Were ordered to take part of party to Dalhousie. Ship left at 1 p.m. Landed party at Dalhousie on the 30th, and returned to Gaspé. Continued along shore to Seven islands, where called at new whaling station on September 8. Next day, 9th, left at 5 a.m. and stood across to south shore, anchoring in Gaspé at 9.15 a.m. Here met Mr. Inspector Lights O'Farrell. On the 11th began loading supplies for Bay Chaleur lights; left same day at 11 a.m. to supply lights as far as Campbellton. This work was completed by noon of September 14, when we landed Mr. O'Farrell at Escuminac. On the 16th, Sunday, received word to proceed to Anticosti lightship and attend to chief engineer who was ill. Left at once and next a.m. at 11 boarded the lightship, but found that the engineer had been taken off by the ss. *Athenian* of the Donaldson line, and taken to Quebec, the surgeon of the *Athenian* having decided that this was the best thing to do. We continued at once to Magdalen islands, anchoring under Byron island at 9 a.m., September 18.

October 14, Saturday, went alongside coal wharf and began coaling in the evening; went back to anchorage in stream Sunday, October 15; left Gaspé at 7.30 p.m. for Magdalen islands. October 16, Deadman abeam at 10 a.m., ran round Entry Island and anchored at Amherst at 1.45 p.m.; landed and saw fishery officer; all well for winter; on board at 3 p.m., and left for Grand Entry to see Officer Arsenault about wintering steam launch *Davies*; met the *Davies* outside; Capt. Arsenault came on

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board and gave him his instructions; at 6 p.m. left Magdalen islands; at 7 p.m. fresh southwest gale; headed away for east point of P.E. Island; at 1.30 a.m. on the 17th passed East Cape, P.E.I., and hauled in and anchored under the land at 1.50 a.m., in $5\frac{1}{2}$ fathoms; at 7 a.m. got in anchor and left for Souris, where anchored at 8.45; blowing a heavy gale from the southwest, too much swell to land; held on here all day. October 18, weather moderating, left at 10.45 a.m. to return to Bay Chaleur by way of Northumberland strait.

November 1, anchored at Monts Louis at 5.45 a.m., to hold inquiry *re* bounty claims. Left at 1 p.m., blowing a gale from southward with snow; kept along under the land; at 11 p.m. anchored between the Rimouski wharf and Barnaby island. November 2, at anchor all day; same weather. November 3, weather moderating, left at 12.30 a.m. and proceeded up the river; at 7.20 p.m. anchored in Patrick's hole; snow flurries now and then. November 4, Saturday, left at 8 a.m., at 8.50 a.m. made fast to King's Wharf, Quebec; hauled down pennant and handed ship over to agent at Quebec.

From this date to November 30, the ship was engaged daily in assisting the stranded ss. *Bavarian*, or in getting in buoys below Quebec, and helping the lightships into winter quarters. On November 30, Captain Chalifour was instructed to take the ship to Sorel. She arrived at Sorel at 10.30 a.m. on Friday, December 1, and made fast to the government wharf.

During the season of 1905 the ship steamed slightly over 14,000 miles without accident or mishap of any kind.

W. WAKEHAM, *Commander*,

Inspector of Fisheries for Gulf Division.

GASPÉ, December 19, 1905.

CANADIAN CRUISER 'PETREL.'

November 30, 1905.

Commander O. G. V. SPAIN, R.N.,
Commanding Canadian Marine Service,
Ottawa.

SIR,—In accordance with your instructions, I have the honour to submit the following report of the duties performed by the *Petrel*, also Patrol Boat No. 1, under my command during the season just closed.

I received instructions from you on March 2 to proceed to Toronto and take command of the Canadian cruiser *Petrel* on March 15, to superintend repairs and fitting up of that ship then lying at the Polson Iron Works.

As directed, I arrived in Toronto on the morning of the 15th. I was met there by Mr. P. W. Lyon, of Barrie, Ont., recently appointed chief engineer of *Petrel*, also of yourself same day. After receiving instructions from you as to the amount of repairs and improvements to be made, I took charge of the ship and superintendence of work. Owing to the different character of patrol to be carried on on the Atlantic coast, the ship had to have a thorough overhauling throughout and many changes made, in fact renovated from end to end, the engines were thoroughly fitted up, boiler repaired, an evaporator was placed in the engine room for the condensing of fresh water, also a grease extractor to prevent grease from entering the boiler from the feed pumps, a new deck was laid, bridge lowered, chart room fitted up, new main-mast put in, refrigerator built, crew's quarters renewed, the ship scaled off outside and recemented and thor-

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oughly painted with three coats of white. Steering gear shifted, also hot and cold water service throughout, and many other improvements.

On May 10 steam was ordered and we went out in the harbour to adjust compasses, also to try the working of the engine, which was very satisfactory.

The ship was then coaled and provisioned for the voyage to Pictou, N.S.

On May 13 my officers and men had arrived. The ship was placed in commission on that date. Captain James Morgan, of Toronto, was engaged as pilot to Montreal, who proved himself worthy of the position.

On May 15 we steamed out of Toronto harbour on our way to salt water, arriving at Montreal at 6.20 p.m. on the 17th.

We remained at Montreal until the morning of the 20th, when we left for Quebec at 4 a.m., arriving there at 3.45 p.m. and hauled into the Marine and Fisheries wharf.

From Quebec the trip was uneventful, passing Red island light-ship at 5.30 p.m. when we landed our pilot, then made our way down the gulf, arriving at Gaspé on the evening of the 24th.

Next day we steamed to Charlottetown, remaining there until the 28th, when we left for Pictou, arriving there the same afternoon.

On June 5 orders were received from you to proceed via Cape North and Aspy bay, as poaching was reported in that section. We left immediately, went to Georgetown that evening, as the wind was easterly and not very clear.

Next day the wind was N.E., and heavy rain storms, but at 8 p.m. the weather cleared. Next morning, 3 a.m., we left for Aspy bay, rounding Cape North at 3 p.m. Saw no fishermen. Steamed along shore and went to Kelly's cove for the night. Next morning proceeded cruising towards Flint island. Met the *Canada* off Low Point. In the afternoon went to North Sydney, where there were three American seiners in port.

From June 7 to 17th we cruised with the American seiners in company when they left for home. At the last mentioned date we cruised to the westward, arriving at Canso same day, where I received orders from you to proceed to the westward, calling at Shelburne and on to Flags cove.

From last mentioned date to 17th we cruised on P.E.I. coast. On the 18th we proceeded to Pictou to go to the marine slip for cleaning and painting, also to have new windlass put in place, which was made by the Carrier Laine Co., of Lévis, Quebec, and has given me great satisfaction.

After repairs and painting were completed, by your orders we proceeded to Charlottetown to assist in the regatta to be held there on July 27. We gave them every assistance, making the regatta a great success.

On the morning of the 30th, orders were received from you to be at Sydney Monday night to meet Governor General and to take party through Bras d'Or lakes in *Petrel*. I left Patrol Boat No. 1 at Souris, and proceeded, arriving at North Sydney Monday, 31, and waited on Governor General. In the afternoon visited the two French war ships with His Excellency, returned to *Petrel*, then steaming along side *Minto* put His Excellency on board, after which we returned to anchorage.

On August 16 I received orders to place myself in communication with the Royal Nova Scotia Yacht squadron and carry out their wishes.

On 28th we coaled, and next day by your orders proceeded east, calling at Isaac's harbour and on to Georgetown, arriving there on 31st. From that date I cruised in the Gulf of St. Lawrence, making one visit to Sydney through the lakes.

By October 13 the United States seiners left for Sydney, their catch off P.E.I. was very small, only about 50 barrels in all. The cod fishing about P.E.I. was poor, owing to scarcity of bait. Hake fishing was good in September. Dog fish were numerous about the island shores which prevented the prosecution of the hake fishing to a great extent.

The lobster catch will be about 15 per cent less than last year on south side of Prince Edward Island.

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The fish dryer at Souris proved a great boon to the fishermen, a great many of the small Nova Scotia schooners selling their catch direct to the dryer at a fair price.

Very few mackerel were taken this year by shore boats around East Point. On North side this fishing has failed gradually every year for the last ten years, this year there was practically nothing.

Very little illegal lobster fishing was carried on about my stations; this season we were able, however, to make one seizure on Boughtons for illegal fishing of lobsters, a fine of forty dollars was imposed for same.

The Patrol Boat No. 1 was employed for a time on the Pugwash and Wallace, N.S., shores doing good service, enforcing the law against illegal lobster fishing.

On October 24, by your order I left the gulf and proceeded to Sydney, calling at Port Hood en route, on my arrival at Sydney I found some U. S. seiners there. By November 3, they had all left for home without securing one barrel of mackerel whilst off Sydney.

During my stay at Sydney several American fishermen called and took out license, shipped extra hands brought over from Newfoundland for that purpose, and proceeded to Bay of Islands for cargoes of herring.

On November 7, by your orders we left Sydney. Wind N.E., thick snow and came through Bras d'Or lakes to entrance of canal where we remained for the night. Next day we went on calling at Arichat and Canso, working our way west and calling at Sheet harbour, and on to Halifax, with orders to report from there. On the 18th, by your orders, we cruised to the westward, making Lunenburg our headquarters.

On the 21st we called at Shelburne, remaining there two days, returning to Lunenburg on the 24th.

I wish to state that the *Petrel* has given good satisfaction, being a very handy little ship, the only objections are that the crews' quarters are very limited. This could be improved by closing in more deck space. The ship has logged this season 6,110 miles up to date.

I beg to hand you a separate report of the duties performed by Patrol Boat No. 1 in connection with the *Petrel*.

I have the honour to be, sir,

Your obedient servant,

W. H. KENT,

Commander Canadian Cruiser 'Petrel.'

Officer John Fitzgerald, in charge of Patrol Boat No. 1, reports as follows:—

By your orders, I proceeded to Charlottetown, P.E.I., on May 29, where patrol boat was hauled out for winter. After caulking and painting hull and having engines thoroughly repaired, I launched her on June 14.

From June 15 until July 5 were under Inspector Matheson's orders.

On the 31st we assisted at Souris regatta, it being still too rough to cross. From that time, by your orders we patrolled the southeast coast of Prince Edward Island in search of illegal lobster fishing.

On August 17 we took in coal and water. Officer Campbell with man came on board and we proceeded in search of traps. We got one trawl of 110 traps, but wind increasing we had to return to Pugwash.

On August 18 we cast off from dock at 4 a.m., and proceeded west along coast; found 40 traps off Birch Head. At 6.30 a.m. caught Edwin Allen and boy hauling and baiting traps. Took him in charge and towed him to Pugwash, and delivered him to

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Officer Campbell. At 2.30 p.m. we proceeded out of harbour again and found 45 traps trawl off Pugwash buoy.

On August 19 we cruised about Bay Verte, finding about 100 traps, and returned to Pugwash at 6.30 p.m.

On Monday, August 21, we got in coal and water and cruised westward, got 185 traps between Pugwash and Tignish. Anchored off North Port that night at 7 p.m.

August 22, at 4 a.m. we weighed anchor and proceeded to sea, got 30 traps off Cold Spring Head. Wind increasing, had to run to Pugwash for shelter.

On 23rd, caught John Hilchy with live lobsters in his possession, took him in charge and delivered him to Officer Campbell, who fined him \$20 and took his boat and dory.

August 25, we left Wallace, cruising east, got a few traps in Tatamagouche bay. Arrived at Pictou at 4 p.m., Govt. wharf and blowed down boiler.

August 26, went to Pugwash by rail to attend Edwin Allen's trial, but he did not appear. He was fined \$40 and lost his boat.

From August 26 until September 5, we searched coast from Pictou to Wallace, but found only a few traps off Malligash point.

On September 6, caught Henry Sullivan with 1 case canned lobsters and a quantity of live ones in his house. I left a man in charge, and on September 7 delivered him over to Fishery Officer Reid, who took charge of canned fish.

On Monday, September 11, caught Tuddle Tucker hauling traps off Port Howe, took him to Pugwash and telephoned Inspector Hockin who came to Pugwash that evening and tried both Sullivan and Tucker and fined them \$25 and \$40 respectively.

On September 13, we worked for Officer Reid, searching for hatchery tank. On the 14th, being blowing a strong northwest breeze, did not leave dock.

On September 15, proceeded to North Port, took Officer Campbell on board and grappled around Cold Spring Head; found about 40 traps returned to Pugwash.

From that time we were in company with ship and patrolling bays and rivers on southeast coast of Prince Edward Island.

On September 19, in company with *Petrel*, we anchored in Cardigan river, and on the 20th, with yourself and Officer Macormack on board we got 30 traps, and in a factory at Wood's wharf there had been lobsters packed out of season. We destroyed factory and sank boiler in river.

On September 31, with Officer Macormack on board, we got George King, of Boughton island, with lobsters in his possession. We took him on board *Petrel* and you dealt with him yourself.

We remained patrolling on that station until October 14, when by your orders we proceeded to Charlottetown for inspection, arriving there on October 15, at 9 p.m.

On October 21, by your orders, we left Charlottetown for Georgetown, but on account of strong southwest breeze blowing, we had to return to Charlottetown and remain there until October 23, which day we left at 4 a.m., and arrived in Georgetown at noon. There I received a letter of instructions from you to proceed to Pictou with boat and lay her up for winter, on October 31.

While in Georgetown, I received information from Officer Macormack of traps on east side of Boughton island. We found trawl of 25 traps, but they had not been fished for some time, as most of them were broken. We also cruised up Cardigan river but found nothing.

On October 28, we proceeded to Pictou, and on Monday, October 30, after storing everything belonging to boat carefully away in store, we placed boat on marine slip and gave her in charge of Mr. Yorston.

Commander O. G. V. SPAIN, R.N.,

Commanding Canadian Marine Service.

SIR,—I have the honour to submit to you my annual report of work done by the C.G.F.G. *Kestrel*, under my command, in the fishery protection service of British Columbia, for the year 1905.

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From January 1 to 9 the *Kestrel* was undergoing slight repairs and having a new ash injector installed. On the 10th I received your order to take the place of the C.G.S. *Quadra* while this ship was under repairs. I immediately left for Victoria, where we remained until the 18th, when we made several short cruises along the coast from Cape Flattery to Cape Mudge.

On the 23rd, during a heavy gale, we sighted a launch disabled, with signals of distress flying, and in immediate danger of being dashed to pieces. We at once answered her signals and bore down upon her, and after several attempts managed to get a line on board of her which enabled us to save the lives of seven men, and also tow the craft to a place of safety in smooth water. We then returned to Vancouver, where we remained until February 1, when we made another short cruise along the coast, calling at different stations on the route, arriving at Vancouver again on the 6th.

On the 8th, one of our seamen, J. Laurie, was publicly presented with a gold medal given by President Roosevelt for bravery in saving life. From the 10th to the 25th we were cruising the southern coast, keeping in touch with Victoria in case of accident or shipwreck. On the 26th we received word that the lightkeeper on Lawyer island was missing and that help was required. I immediately left for the north with all possible speed; on arrival I found that Mr. Harvey, the keeper, had been missing for eight days, and was supposed to have been capsized out of his boat. I at once put a man in charge of the light until the arrival of the *Quadra*, or until other arrangements could be made. I then proceeded to Port Simpson, where an Indian reported to me that he had that morning found a mast and sail on Findlayson island, and it had been identified as the one on Harvey's boat at the time of the accident. I then took on board Mr. Fluen, government agent, and Coroner W. R. Lord, and we searched the coast and islands thoroughly for any further traces of the missing man or boat, but could find nothing. On March 7, left for south, arriving at Victoria on the 10th and Vancouver on the 17th, when we washed out boiler and prepared to go on our regular patrol duty. On the 28th Collector of Customs Newbury reported to me that there was trouble between the collector of customs and the Indians on Queen Charlotte islands, and wished me to investigate and straighten matters out. Leaving Victoria on April 2 on patrol duty, we cruised north to Port Simpson, calling at all way stations. We then cruised Queen Charlotte sound, Milbank sound, Hecate sound, Chatham's sound and Dixon's entrance, north of Queen Charlotte islands, to North island, visiting Virago sound and Massett inlet. At the latter place several cases were tried against the Indians for smuggling; they were made to pay up back accounts, and also pay duties on articles then in their possession; they also promised that they would obey the laws in future. We then continued cruising Hecate straits and Chatham sound to Metlacatla. Leaving here we again cruised Hecate straits, Principe channel, Wright sound, Milbank sound, Queen Charlotte sound, and inner channels to Vancouver. On May 17, we put ship on dry dock to repair metal around rudder and stern post. Coming off the dock, on the 20th, we took up patrol duty on the west coast, visiting Quatsino, Hesquoit, Nootka, Ahousat, Cypress bay, Claquoit, Ucluelet, Bamfield creek and Barkly sound. Cruising north again to Cape Scott and Queen Charlotte sound, returning down the inside channels to Vancouver, where we washed out boiler and made slight repairs. On June 8 left again on regular patrol duty, cruising Queen Charlotte sound, Milbank sound, Hecate straits and Chatham sound, also Works canal, returning visited Port Simpson, Metlacatla and all way stations en route to Vancouver. After washing out boiler we again left on regular cruise, taking Mr. Taylor, inspector of fisheries, and Capt. Kemp, oyster expert, also a quantity of oysters, along with us. We located and planted several oyster beds on our way north. After rounding Cape Scott we proceeded down the west coast, when off San Josef bay, I sighted a schooner poaching well in-shore. I immediately gave chase, capturing two dories within the limit, and after a hard chase and hot pursuit captured the schooner four and half miles off shore (this proved to be the motor schooner *North*, of Seattle).

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I immediately put a hawser on board and towed her to Winter harbour, Quatsino sound, where I put a prize crew on board, and took her in tow for Vancouver. The remainder of the month was spent in looking after our prize and attending court.

During the month of August, we were cruising west coast and northern waters, calling at many of the outlying, unsurveyed harbours, where we found that the American fishermen were making use of these harbours for a base of operations, and in some cases had built small lighthouses for their guidance through the different channels. These houses were torn down and notice given the fishermen that any further infringements on our laws would be attended with disastrous results to themselves. We then cruised Hecate straits and the channels back to Vancouver.

From September 1 to 6 had carpenters at work caulking decks, &c. On the 7th we again started on regular patrol cruising northern waters and west coast. On this cruise we did double duty, taking Col. Anderson and Capt. Gaudin along, calling and inspecting all light houses and principal points along the coast, returning to Vancouver on the 20th. We then proceeded to Esquimalt, where we put in drill, and acted as guard ship during the rehearsal of the troops stationed at this point, returning to Vancouver on the 30th. During the month of October we were cruising west coast and northern waters, arriving back at Vancouver on the 28th.

After washing out boiler and making repairs to dynamo, we left again on November 8, again doing double duty on account of the *Quadra* taking Mr. Fraser, commissioner of lights, along with us. We cruised northern waters to Portland canal, calling at all lighthouses and principal points en route, returning cruised west coast to Winter harbour and Quatsino sound. Leaving Mr. Fraser at this point, we again cruised around Cape Scott and inner channels to Vancouver.

During our cruise in the month of October, we called at many of the rivers where the Indians were fishing and in several cases found obstructions which they had placed in the rivers to stop the salmon from going up stream. These obstructions were removed and the Indians warned not to erect them again. In one case they would not remove the barricade when ordered. I immediately landed two boats crews fully armed; the Indians fled to the woods and the seamen at once destroyed the obstruction and all fishing gear, the Indians leaving the river immediately after.

From January 1 to November 30, the *Kestrel* logged 14,400 miles; estimated mileage for the year, 15,300. Considering that a great part of her work has been in unsurveyed waters, where great care and caution is necessary, this is not a bad record.

During the past year halibut fishing on this coast has been good, and nearly double the quantity has been taken to any previous year. The American halibut fleet has increased very rapidly, principally in gasoline motor schooners. Poaching is carried on quite extensively, especially on the west coast, where the motor schooners are operated during the summer season. To protect our halibut fisheries here it is absolutely necessary to have three more boats—one good smart cruiser (say 20 knots) and two smaller boats, one to be stationed on west coast and one at southern Dundas and Queen Charlotte islands, these boats to assist the cruisers in watching our harbours. With a fleet of this kind I would be prepared to stop all poaching for the present on this coast, and put any foreign fishermen out of business as far as Canadian fish are concerned.

At the present time, with our extensive coast line and the large fleet of foreign fishermen, it is impossible for any one boat, however fast she may be, to give the efficient patrol required to protect our fisheries.

It would not be necessary for the smaller boats to carry large crews, they should be the same class of boat as the fishermen, and be able to cruise when it was possible to fish. I would suggest boats from 90 to 100 feet keel; the reason for recommending the fishermen model of boat is, they would make the best sea boats and could always put to sea if required.

At the present time, under existing conditions, it is impossible for any one boat to give anything like a satisfactory patrol, and new boats cannot be had too soon.

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These boats should be first class in every respect; it would be worse than useless and a waste of money to put inferior boats on these stations.

I have the honour to be, sir,

Your obedient servant,

HOLMES NEWCOMBE,

Commanding C.F.C. Kestrel.

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ANNEX B.

HALIFAX, December 30, 1905.

Commander O. G. V. SPAIN, R.N.,
Commander Marine Service,
Ottawa.

SIR,—I have the honour to report on the operations of the Fisheries Intelligence Bureau for the season of 1905, containing statements of the fisheries from the various reporters connected therewith.

Fifty-nine reporting and twenty-four bulletin stations comprised the bureau during the past season.

Three new reporting stations were established as follows: At Grand Pabos and Port Daniel, Que.; and Sambro, N.S., in charge of Mrs. Mike Murphy, Miss Isabella Sweetman, and Mr. Isaac Gray, respectively.

New reporters were appointed at Ingonish, C.B., in the person of Mr. Godfrey Jackson; Spry bay, N.S., Mr. Elmer C. Leslie, and at Southwest Point, Anticosti, Mr. Z. Lemieux.

Appended are the statements showing results of the operations for the season of 1905:—

LIST of Fisheries Bureau Reporters who are Government Officials.

Residence.	Name.	Allowance.
		\$ cts.
Arichat, West, C. B.....	C. P. LeLacheur.....	15 00
Cheticamp, C. B.....	Charles E. AuCoin.....	15 00
Digby, N. S.....	J. M. Viets.....	15 00
Georgetown, P. E. I.....	Charles Owen.....	15 00
Grand Manan, N. B.....	Charles Dixon.....	15 00
Hawkesbury, C. B.....	J. C. Bourinot.....	15 00
Liverpool, N. S.....	J. H. Dunlop.....	15 00
Lockeport, N. S.....	J. R. Ruggles.....	15 00
Louisburg, C. B.....	H. C. V. LeVatte.....	15 00
Mabou, C. B.....	Lewis McKeen.....	15 00
Margaree, C. B.....	M. A. Dunn.....	15 00
Musquodoboit Harbour, N. S.....	George Rowlings.....	15 00
Petit de-Grat, C. B.....	P. T. Fougere.....	15 00
Port Hood, C. B.....	E. D. Tremaine.....	15 00
Lo, East Pubnico, N. S.....	J. A. D'Entrement.....	15 00

List of Fisheries Bureau Reporters Outside the Civil Service.

Residence.	Name.	Allowance.
		\$ cts.
Alberton, P. E. I.	David Montgomery.	15 00
Arichat, C. B.	J. T. Jean.	15 00
Bloomfield, P. E. I.	Edmund D. Kelly.	15 00
Canso, N. S.	John E. Cohoon.	15 00
Caracquet, N. B.	Mrs. E. Blanchard.	15 00
Clark's Harbour, N. S.	J. L. Nickerson.	15 00
D'Escousse, C. B.	John P. Gruchy.	15 00
Gabarus, C. B.	James Nichol.	15 00
Gascons, L'Anse, Que.	Mrs. A. E. Brotherton.	15 00
Gaspé (Douglastown).	Charles Viets.	15 00
Grand River, Que.	Mrs. J. Carbery.	15 00
Ingonish, C. B.	Godfrey Jackson.	15 00
Isaac's Harbour.	Simon M. Giffin.	15 00
L'Ardoise, C. B.	J. M. McIsaac.	15 00
Long Point, (Mingan) Que.	A. Maloney.	15 00
Lunenburg, N. S.	W. A. Zwicker.	15 00
Magdalen Islands, Que.	J. A. LeBourdais.	15 00
Main-a-Dieu, C. B.	G. W. Dickson.	15 00
Malpeque, P. E. I.	Hume Hopgood.	15 00
Meat Cove, C. B.	A. B. MacDonald.	15 00
Newport Point, Que.	Mrs. M. Muenier.	15 00
Paspébiac, Que.	Miss Ada Beck.	15 00
Perce, Que.	E. G. Tuzo.	15 00
Point Escuminac, N. B.	John Walls.	12 00
Pt. St. Peter, Que.	Mrs. M. J. Bond.	15 00
Port Daniel.	Miss Isabella Sweetman.	15 00
Port Malcolm, N. S.	R. C. Proctor.	15 00
Port Mulgrave, N. S.	David Murray.	15 00
Port Latour, N. S.	G. A. Crowell.	15 50
Salmon River, N. S.	Arthur Balcom.	15 00
Sambro, N. S.	Isaac Gray.	15 00
Sand Point, Shel. Co., N. S.	John A. R. Morrison.	15 00
St. Ann's (Englishtown).	Thomas D. Morrison.	15 00
St. Adelaide de Pabos, P. Q.	Mrs. A. LeMarquand.	15 00
Grand Pabos, Que.	Mrs. Mike Murphy.	15 00
St. Peter's, C. B.	Angus J. MacCuish.	15 00
Seven Islands, Que.	P. E. Vignault.	15 00
Shippegan, N. B.	Mrs. M. J. Robichaud.	15 00
So. West Pt. Anticosti, P. Q.	Z. LeMieux.	15 00
Spry Bay (Leslie's Bay).	Elmer C. Leslie.	15 00
Queensport, N. S.	William Knowlan.	15 00
Whitehead, N. S.	John F. Dillon.	15 00
Yarmouth, N. S.	F. L. Hatfield.	15 00

NOVA SCOTIA.

DIGBY COUNTY.

Reporter, Mr. J. M. Viets.

Cod were reported in fair quantities May 2 and 3, and the catches after that were light to July 26, when codfishing was said to have been about over. The weather this season has been so variable and the run of fish small, that it cannot be called over the average, but the prices obtained for fish have ruled more than fair. The owners of fishing vessels at this station seem to be encouraged, as we have had new additions to the fleet, and there is strong talk of others to be added next year. A departure has been made by Captain E. Keans and other owners of the schooner *Willie L. Snow*, lately launched from the yard of Joseph McGill, of Shelburne, which is that they have installed a kerosene motor in the craft. She is now on her maiden fishing trip.

Haddock were first reported on May 2, but the catches were light until about June 29, when they became fair and continued so as far as reported, to October 11. The 'finnan haddie' business has been very successful this season at Digby, Centreville and

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Little river, the factories having had full orders and prices ruling satisfactorily. Markets have been found for this article all through Canada to Vancouver, B.C.

Hake fishing commenced in June on the 22nd, and remained fair to the middle of July, when good catches were taken for the remainder of the month. During August, September and to October 11 the average catch was fair.

Herring made their appearance at this station the first week in May in good quantities, and herring bait by fishermen's nets was reported at St. Mary's bay on the 3rd, 4th and 8th. From this date to the 13th, fair fishing was reported, and herring became scarce after until the 29th, when they again appeared plentiful, but of a very small size and were being taken for canning purposes. Herring in traps were reported June 19, 20, 21 and 22, and on July 6 traps at St. Mary's bay and Griffin's cove reported a sufficient quantity for bait. Herring were almost 'nil' July 26, and poor takes have been obtained except on two or three occasions, and then the fish were wholly unfit for bait purposes, causing fishing vessels and boats to seek bait across the north shore of Bay of Fundy. A few fair catches of herring were taken in August with bait in traps. Several good stops of herring were made in September on the 11th, 14th, 15th and 18th, all weirs in Annapolis basin on the 11th having a supply of bait. A cold storage plant for bait is very much required at this station, as evidenced here this season when herring were scarce, and fish were on the coast. Vessels were compelled to go to the opposite shores of the Bay of Fundy for bait, thereby losing good opportunities. Frequently there are good runs of herring in Digby basin, but only a limited supply can be taken care of for want of proper methods for handling the same, as the fleet cannot always be on hand when the bait strikes in. With the establishment of a bait freezer at this station and a good supply of bait in stock, the catches of fish in general would be largely increased. Mr. S. Gidney, of Sandy cove, is reported to have commenced to run a large seine at the cove, and had taken large catches. This is late in the season (November 30), but it demonstrates what can be done.

Mackerel were first reported when they were taken in light fares August 10, at what is called the 'Sea Wall,' or rather weir. The fish were about a No. 3, but were quite fat. The week on the whole has been a disappointing one to the fishermen, both bankers and boatmen, the weather being extremely foggy, with the exception of a small catch of No. 1 mackerel in nets off Weymouth, September 8, none were reported at this station the balance of the season.

Dogfish struck along the Bay of Fundy coast August 5 in large schools, and caused several vessels of the Digby fleet to haul up. This 'scourge' is the cause of both fresh and salted fish being very scarce and vessels hailing for St. John and other ports are long in filling up their cargo. This state of affairs extends all along this section of the coast. They were reported still troublesome later in August, rendering the catch of fish extremely light.

Ice was in good supply at this station, and outports throughout the fishing season.

RETURN showing the Kinds and Quantities of Fish taken in the District of Digby, N.S., for Season of 1905.

Ports.	Hake.	Haddock.	Cod.	Halibut.	Herring.	Lobster.	Pollock.
	Lbs.	Lbs.	Lbs.	Lbs.	Bbls.	Cwt.	Lbs.
Digby.....	1,217,000	1,268,000	403,000	9,000	1,300	473	
Sandy Cove.....	1,122,748	290,486	380,160		300	1,080	31,446
Freeport.....	268,400	290,600	1,343,800		570	630	357,000
Westport.....	1,116,000	111,600	600,000	12,400	250	350	1,860,000
Tiverton	3,000,000	300,000	580,000	7,000	400	412	533,000

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EAST PUBNICO, YARMOUTH, N.S.

Reporter, Mr. J. A. D'Entrement.

Alewives struck in fairly May 5, and to the 18th fair catches were taken. Light quantities were on the coast after the 31st, when the run became fair again. Very small fares of alewives were taken in June to the 9th. None were caught after this date.

Cod.—Season opened up with very light catches to May 21, when fair fishing was reported which slackened after to poor to June 16. The codfishery was reported fair from June 26th to July 15, with a poor season to the 21st, on which date the cod fishermen landed fair catches. Very few cod were taken in August to the 16th, but the 28th cod were very plentiful, and good fares secured. For the remainder of the season the catch was very small. The Cape Shore fleet hauled up their crafts for the season on September 19.

The following vessels engaged in the codfishery during the past season:—

	Pounds.
Schr. <i>Eddie James</i>	44,000, salt.
“ <i>Senora</i>	140,000 “
“ <i>Geneva May</i>	120,000 “
“ <i>Laura J.</i>	103,000 “
“ <i>Souvenir</i>	100,000 “
“ <i>Nelson, A.</i>	125,000 “
“ <i>Greenwood</i>	99,000 “
“ <i>Marguerite</i>	125,000 “
“ <i>Aurore</i>	125,000 “
“ <i>Dawn</i>	305,000, fresh.
“ <i>Henry L.</i>	20,000, salt.
“ <i>Louise</i>	15,000 “
“ <i>Annie B.</i>	60,000 “
“ <i>Regine</i>	36,000 “
“ <i>Lucy</i>	4,000 “
	<hr/>
	1,421,000

Haddock were taken in fair catches between July 28 and August 21, with small fares after.

Halibut.—The catch of halibut has been a very poor one this season at this station.

Herring were taken in light quantities about July 21, but thereafter the catches were very small and irregular to October 2, when herring struck in fairly. On the 4th, a good run appeared and some of the fishermen did well. Very few herring were reported on the coast after this run was over.

Lobsters.—Fishing began with light catches, and continued the same throughout the whole season. 2,500 cases of canned lobsters was the output of the factories located at this station, and 500 crates of live lobsters will represent the quantity exported.

Mackerel in light catches were taken June 5, after which none were caught until July 5, when a few more were reported.

The catch this season as a whole has been below the average, and were it not for the good prices obtained for fish, the season's work would have been a very poor one.

LOCKEPORT, SHELburne CO., N.S.

Reporter, Mr. J. R. Ruggles.

Cod.—On May 5, cod were taken in fair quantities from the first of the month and remained the same until the arrival of dogfish on the shores. This fish came in abun-

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dantly and combined with rough weather rendered the codfishery very dull during the month. Fair catches were taken between June 2 and 9, with good hauls reported from the 17th to the 30th. The fishing during July and August to the 25th, was reported on an average good. Very little was done in this branch of the fisheries later in the season, as a scarcity of bait was daily reported to the closing of the bureau October 15.

Haddock were first reported good June 21, and to August 25 the catches were identical with that of the codfishery.

Halibut were not reported, but 20,000 pounds, or 10,000 pounds more than last season was the catch for this season.

Herring.—This important branch of the fisheries was not regularly reported this season, but frozen bait was obtainable from June 13 to July 28. Herring bait by fishermen's nets was reported in July from the 5th to the 28th. During the strike of herring on this coast, it is estimated that 1,000 barrels were taken which was twice the quantity obtained last year.

Lobster fishing was reported poor May 5, and to the 15th light catches only were taken. It was reported that 128,000 live lobsters were exported from this station by steamers. The output of the canneries at this station this season was 57,600 pounds.

Mackerel was only a visitor at this locality this year; only 10 barrels were taken.

Clams.—One hundred and thirty-six barrels of clams were gathered here the past season.

STATEMENT of fish taken at this Station the past season.

DETAILED STATEMENT.

Name of Vessel.	No. of Lbs. taken.	Oil.
		Bbls.
Miriam.....	25,000	
Fleetwing.....	28,000	1
Charlie Richardson.....	77,000	2
Blanche.....	22,316	
Altona.....	60,000	
T. C. Lockwood.....	210,000	10
" ".....	148,000	
Ida M. Clarke.....	322,000	20
" ".....	84,000	
Marianna.....	90,000	2
Myrtle.....	4,000	
Mayflower.....	35,000	
Togo.....	90,000	2
Britannia.....	32,000	
Oressa.....	20,000	
Thistle.....	100,000	5
	1,647,316	42
Boats from Port LeHerbert to Blue Island.....	900,000	
	2,547,316	Or 1,512 gals.

Proportion of Cod.....	2,065,476 Lbs.
" Haddock.....	12,736 "
" Hake and Cusk.....	19,104 "
" Pollock.....	450,000 "
Total.....	2,547,316 "

PORT LA TOUR, N.S.

Reporter, Mr. G. A. Crowell.

Alewives were taken in light catches on May 3, 12 and 15, and were used during the month for bait.

Codfish.—As early in the season as April 28, it was reported that one boat with a crew of three men prosecuted the codfishery for several days, and were quite successful, disposing of their catch fresh, which aggregated \$14 for two days' operations. This was considered more than the prevailing market price, but being the first fish taken in the district and disposed of locally, one can understand the high figure obtained. Cod began to show up well the first week in May and the fishermen, three men to a boat, were earning in four days \$6, \$7, \$6.50 and \$4 respectively. The following week, a few cod were on the ground. Changeable weather set in later, rendering it so windy most of the week, and only one small schooner went out, and that occasionally. The weather kept very boisterous all the week, preventing boats from venturing too far from land, and when a calm season prevailed the 22nd, one boat manned by the usual crew of 3 men landed a catch of 1,100 pounds of fish which netted them \$18 for one day's work. About this period there were only three boats engaged in line fishing, the remainder were attending the lobster industry. June was considered a little better for codfishing and opened well on the 1st, with fair catches on the 10th, 12th, 13th and 17th, and good quantities on the 14th. Fishing during the months of July and August was almost the same as in May and June; thick fog in July causing many of the boats to remain in the bay. Several small schooners operating July 22, took from 10 to 15 tubs (a tub is supposed to hold sufficient green fish to weigh when cured $1\frac{1}{2}$ quintal). The latter part of July was very poor for line fishing, owing to thick fog, S.E. winds and the numbers of dogfish which swarmed all along the shores of this coast. Prospects the first of August for good fishing were growing poorer as the season advanced. To the 12th of the month the weather was very tempestuous, fog, rain and rough weather continuing all the week. To the end of the month very little was done in codfishing. September showed a few fair days, but the month on the whole was a poor one. A week's fair fishing was reported in October from the 6th to 13th, when an improvement took place all round.

Dogfish were again beginning to appear too plentiful for pleasant fishing, and the herring fishermen regretted their presence in these waters.

Haddock were first reported in the month of June, which gave two days of fair fishing on the 10th and 14th. Several small catches were taken during the month. In July fair haddocking was reported the 6th and 22nd, with an occasional light catch on other days. August was not very favourable to the haddock fishery, and September had one fair day. Fishing in October was identical to that of the codfishery, fair, from the 6th to the 13th.

Halibut were reported when they struck off the coast in light quantities June 24 and 26, continuing the same during July and August, to the 26th, when occasional quantities of halibut were taken sufficient to vary the diet of the residents of this locality and a few for export. Trawling was the method adopted by the fishermen in September, and on the 15th five small halibut were caught by one boat. October gave to halibut fishing five fair days when fishermen did fairly well.

Herring.—Clams supplemented by a few alewives was the bait used the first of the season. A few nets were set in the harbour May 20, but no signs of either herring or mackerel were visible. It was reported on May 26 that some large herring were passing over the grounds 20 miles off. The first favourable herring news was reported June 30, when one boat had 50 small herring taken in the nets that morning. Herring struck in abundantly July 6, and large herring were reported 15 miles off shore. Herring of a small size were obtainable in nets on the 7th, with a small quantity of bait to be had on the 17th, 18th, 19th and 20th. The small crafts that had been out all the

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week reported good quantities of herring bait on the grounds. The latter part of the month small herring for bait purposes were taken from the harbour nets. Dogfish were on the coast about this time in very large numbers, interfering considerably with the fisheries. The weather also was very inclement, thick fog, and S.E. wind prevailing. It was reported August 5 that sufficient bait had been taken in the harbour to supply the boats operating inshore, and the shallows had caught enough large herring on the grounds to meet the present demand for bait. The prospects, however, for a good season's fishing were poorer as time rolled by. A few boat fishermen on the 10th and 11th setting nets in Cape Negro harbour obtained few large fish. The weather preventing them further prosecution of this industry, the week of August 12 reported the worst of the season. During September and October small quantities of herring for bait were taken at intervals when dogfish were again reported on October 7, and the fishermen's nets were suffering from the result of their visit.

Mackerel were reported an entire failure at this vicinity this season.

Pollock were first reported when striking in on June 14, and on the 21st fair quantities were taken. Schools of pollock were on the coast in July on the 6th, and fair fishing was going on August 3. This fishery was continued with more or less success during the remainder of the season. Pollock some years are very much more plentiful, but a redeeming feature of the situation is that prices have ruled high all through the season.

Bait was reported scarce and uncertain at intervals throughout the season. Occasionally there would be sufficient herring to meet the demand, and at other times there would be none at all, consequently the 'Clam Flats' had to be depended upon to get the required quantity of bait.

The following quantities of fish were taken at this station this season:—

	Pounds.
Cod.	395,000
Haddock	170,000
Pollock.	110,000
Halibut.	10,000
Herring.	253,000

LUNENBURG, N.S.

Reporter, Mr. W. A. Zwicker.

Codfish were first reported this season on May 6, and the catches to the 25th of the month were fair. Five schooners left LaHave for North Bay on the 11th to engage in hand line fishing. Many other vessels from this district will also go to the North bay fisheries. These hand liners are invariably successful and return with good fares. The report from the bank fishermen about this date were not very promising, and it looked as though the spring catch would be small. A few schooners, however, arrived with big fares. Ice, bad weather and dogfish combined were the chief causes of the Lunenburg vessels on the fishing ground being placed to considerable trouble and loss. Good fares were taken from May 26 to June 8, when the fishing became fair again, and continued so to July 7. A scarcity of cod was noticed in July from the 8th to the 21st, and the 29th many of the cod fishermen landed fair hauls. Very few cod were going to August 12, when they again struck in fair, gradually decreasing in catches to the 26th. During September, when weather permitted fair results were obtained by those who still engaged in this pursuit. It was reported November 15, owing to a scarcity of bait and an abundance of dogfish on the shores, the catch for the season was below the average. Notwithstanding the catch was not a heavy one, never before were values so good. The prices obtained by the fishermen of Nova Scotia for this season's catch are by far the highest in the history of the fishing industry. Last year they

made a new record in this respect, but the year closing finds them attaining a greater value by about 50 cents per quintal. A comparison (as viewed in a Halifax daily) with the prices of ten years ago is interesting. Taking the figures of a decade ago also those of 1900, the following appears:—

Year.	Price.
1895	\$3 50
1900	4 00
1905	6 00

A despatch from Lunenburg, dated November 29, may be also of interest: 'About all the bank fish have been cured and dried. The drying season just closed has been considered a most favourable one, and the average run of fish is much better than usual. This year nearly half of the Lunenburg product has been sold to Halifax buyers. A large part of the catch was sold green to the new fishing firm. This is a popular way of disposing of a fare by the fishermen, as they do not have to wait any length of time for their pay. There are two reasons for the disposal of so large a part of the year's catch in Halifax; one being the high prices and the other because of poor communication with the West Indies. An effort was made last winter by the Lunenburg board of trade to have the steamers plying between Halifax and the islands call at this port. Should this be done the trade of the town would be largely increased. Had the catch been a heavy one, there would have been fortunes in fish at these prices, but the catch has been a light one. Taking the high prices and the comparatively small catch together, we have an average result. The Lunenburg banking fleet, consisting of 66 vessels, landed in all 12,956,000 pounds of fish, 459,000 pounds less than that of 1904. The LeHave fleet of 65 vessels also fell short of last year's by 1,692,000 pounds, the catch being 10,858,000 pounds; and the Mahone bay fleet of 18 vessels fell in line with a shortage of 400,000 pounds, their catch being recorded at 2,525,000 pounds. 26,339,000 pounds was the combined catch of these three fleets for the season, which is 2,551,000 pounds less than their yield for 1904. It is stated the catch for the season was the poorest since the commencement of banking, attributed largely to the scarcity of squid on the fishing grounds, and absence of herring bait on the Newfoundland and Nova Scotian coasts, and the numerous shoals of dogfish which infested all the banks during the season.

Haddock fishing was extremely light the early part of the season and the first fair reports were received on June 10 when the fishing continued the same to July 4. Good hauls of haddock were taken from the 5th to the 7th, after which the fishery became poor for the remainder of the season. The total catch was below the average the past season.

Herring's appearance on the coast was marked by a few which struck in on May 25, and to the end of the month fair quantities were going. Good herring fishing was reported between June 1 and 8, and fair from the 17th to the 22nd. Some boats on the 23rd reported a catch of 20 barrels. Herring were fair from June 24 to July 6, and fair catches were reported on July 20 and 21, August 5, 16 and 22, and again fair in October on the 3rd. Very few herring were taken during the month of September, and the catch for the season was the poorest for many years.

Lobster fishing commenced December 15, with fair results to New Year's Day, when the lobster fishermen removed their traps owing to the heavy ice forming on the coast. Operations were recommenced about March 20, but the catches were very light to April 30. During May lobster fishing was on an average fair. All large lobsters that were taken previous to May 1, were exported alive to the United States; those, both large and small caught after that date were sold to the canners. The pack of lobsters this season is considered a poor one.

Mackerel were first observed on May 25, when one boat had 50 large ones, and to June 8 fair catches of large fish were taken. A few small fares were reported later in

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June, and on July 21 one trap had 70 large ones for the first. 500 and 600 large mackerel were trapped respectively the 24th and 25th, and on the 27th 150 fish were caught. August was the best month in the mackerel fishery, 1800 being taken on the 12th, and on the 14th and 15th, 2,500 and 1,500 were caught in the traps. All the fish captured were of a large size. A few were reported to the 22nd, when dogfish put in an appearance and this combined with stormy weather rendered the fisheries extremely dull. Late in the season on November 15, one boat made a stop of 25 mackerel, and then the run of fish was over for these waters where the catch has been said to be the poorest for years.

Squid's appearance on the coast was reported by a catch on July 26 of 35 barrels by one trap. There was a fair catch from August 14 to 19, but a great scarcity of squid was reported throughout the remainder of the season. The total catch was 125 barrels which three bankers took advantage of. Squid was not reported on the banks this season.

Dogfish were numerous on our shores during the past season. One boat, one night, reporting 1,900 fish in four nets, and one trap in one haul brought ashore 2,700 dogfish. Our bankers reported dogfish in abundance all over the banks and fishing grounds driving away the bait fish and destroying the nets and trawls which accounts for the banks and shores fisheries being reported so poor the past few years. The government should devise ways and means to rid our waters of this pest thereby enhancing the value of our fisheries in general.

Following is a list of the vessels which comprised the Lunenburg, LaHave and Mahone bay banking fleet during the past season, with their respective catches:—

Lunenburg Banking Fleet.

	Lb.		Lb.
Arabia.. . . .	140,000	Lilla B. Birtle.. . . .	370,000
Lillian	120,000	Athlon.. . . .	120,000
Baden Powell.. . . .	140,000	Hero.. . . .	20,000
Adelaide.. . . .	10,000	Shamrock.. . . .	320,000
E. M. Zellars.. . . .	180,000	Acme.. . . .	230,000
Ellwood.. . . .	12,000	Defender.. . . .	350,000
A. L. B.. . . .	10,000	Colonia.. . . .	250,000
Alameda.. . . .	160,000	Azalea.. . . .	190,000
Tribune.. . . .	20,000	Demeering.. . . .	200,000
Evelyn.. . . .	28,000	Acadia.. . . .	200,000
Muriel.. . . .	230,000	Huron.. . . .	160,000
Atalaya.. . . .	130,000	Strathcona.. . . .	150,000
Francis Willard.. . . .	160,000	J. M. Young.. . . .	80,000
Aquadilla.. . . .	420,000	Peerless.. . . .	120,000
Beatrice S. Mack.. . . .	440,000	Ellen F. Maxner.. . . .	240,000
Alcaea.. . . .	280,000	Palatia.. . . .	225,000
Gatherer	35,000	Lena F. Oxner.. . . .	210,000
Juanita.. . . .	420,000	Arkansas.. . . .	320,000
Renown.. . . .	185,000	Nahada.. . . .	140,000
Tasmania.. . . .	170,000	Uranus.. . . .	360,000
Transvaal.. . . .	160,000	Alexandra.. . . .	400,000
Eva Jane	240,000	Mizpah.. . . .	230,000
Nina.. . . .	15,000	St. Helena.. . . .	190,000
Alhambra	240,000	Coronation.. . . .	420,000
Helen L. Morse.. . . .	106,000	Ahava.. . . .	320,000
Torato.. . . .	190,000	Columbia.. . . .	260,000
M. E. Schwartz.. . . .	280,000	Vendetta.. . . .	140,000
Palmetto.. . . .	230,000	Dove.. . . .	200,000
Britannia.. . . .	100,000	Lilla D. Young.. . . .	300,000
Minnie M. Cook.. . . .	400,000	Commander.. . . .	110,000
Hilda C.. . . .	80,000	Cardena.. . . .	360,000
Willis C.. . . .	120,000	Millie May.. . . .	20,000
Hispanolla.. . . .	140,000	Matana.. . . .	160,000

Total catch.. . . . 12,956,000

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Lahave Banking Fleet.

	Lb.		Lb.
Glenwood..	240,000	Golden Rod..	140,000
Marion..	160,000	Guide ..	120,000
Cavalier..	120,000	Edith, F. S..	100,000
Linas, A..	140,000	Mankato..	140,000
Oreda..	280,000	Blake..	300,000
Marconi..	35,000	Scotia..	120,000
Iona ..	180,000	Ivanhoe..	160,000
Yamaska..	120,000	Kasaga..	120,000
Stanley..	140,000	Ungara..	150,000
Companion..	160,000	Cyril..	280,000
Hattie D..	70,000	Millie Mace..	160,000
May Myree..	180,000	New Era..	240,000
Earl, V. S..	160,000	Campania..	240,000
Protector..	220,000	W. C. Silver..	160,000
Karmoe..	160,000	Glyndon..	150,000
J. J. Morton..	80,000	Victoria ..	140,000
Maderia..	140,000	Carl E. Richard..	170,000
Mariner..	135,000	Barcelona..	135,000
Mary E. Smith..	160,000	Valoria..	80,000
Parana..	320,000	G. S. Troop..	220,000
Speculator..	220,000	Aldine..	120,000
Oregon..	240,000	Havana..	180,000
Ethel..	200,000	Yukon..	290,000
Emulator..	190,000	Melba..	80,000
Moran..	250,000	Meteor..	220,000
Annie M. W..	100,000	Collector..	225,000
Pilgrim..	120,000	Oceanic..	250,000
Roma..	240,000	Ambition..	400,000
Lucania..	280,000	Latooka..	120,000
Elena..	80,000	Pearl..	10,000
Corean..	90,000	Alice Gertrude..	80,000
George R. Alston..	80,000	Manhattan..	360,000
Alma Nelson ..	160,000		
		Total catch..	10,858,000

Mahone Bay Banking Fleet.

	Lb.		Lb.
Flo F. Mader..	200,000	Calavera..	210,000
Vernie May..	130,000	W. S. Wynot..	230,000
Oressa Belle..	110,000	Iona, W..	140,000
Loyal..	60,000	Noble, H..	180,000
J. W. Mills..	140,000	Clarence, B..	50,000
Markland..	60,000	Palanda..	80,000
Kimberley..	60,000	Minnie Pearl..	210,000
Crofton McLeod..	170,000	Saratoga..	240,000
Mamie Belle..	230,000	Anita..	230,000
		Total catch..	2,525,000

SAMBRO, HALIFAX COUNTY, N.S.

Reporter, Mr. Isaac Grey.

Cod operations began April 15, but the fish were very scarce and continued so to the end of May. On one or two occasions during the first week in June there were quite a few cod going, but stormy weather on the coast prevented the boats from reaching the grounds; when they were successful in their attempts the fish had moved off to other haunts. Cod were again reported scarce during the months of July, August and in September to the 22nd, when a few codfish had appeared on the fishing grounds, but the weather proved so bad that the fishermen had little chance to catch any. There were several strikes of cod on the coast in October, but inclement weather and vast numbers of dogfish proved a drawback to the fisheries. Cod were reported scarce also in the month of November.

Haddock were reported very scarce during the summer months. To the close of the season the catch was light.

Hake also were reported scarce during the season.

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Herring were reported scarce in April, May and June, but July 10 a few schools of small herring were in the harbour, and on the 14th a small catch of fine fat herring was made during the week. The fishermen found it hard to operate this week on account of the dense fog which hovered over the fishing grounds. Several schools of small herring, 5 and 6 inches long, were also in the harbour this week. Fine and large herring were caught in nets August 19, but dogfish were interfering greatly with net fishing. On August 30, in the cove west of this station, herring struck in schools that boats were averaging four barrels each. Herring became scarce after, and it was reported that all kinds of fish had left the shores, giving the appearance of 'hard times' on this coast for the fall. There was a change for the better, however, in the fishing industry the week of September 15, as cod were on the coast; herring were returning again, with good catches taken and a few large mackerel had struck in the bay. Quite a quantity of herring was going September 30 along the shores, and many of the fishermen secured a few barrels. The catch in November was poor, herring being scarce.

Mackerel were found to be very scarce in the month of May, June and July, when a few small mackerel, about ten inches in length, were taken in nets the 13th and 14th. On the 21st, small mackerel five and six inches long were schooling in the bay, and a catch of large mackerel was made in nets August 19. Large mackerel struck on the coast in September 15 and 22, but disappeared from the shores the latter date. In October, there were no mackerel reported at all, but in November quite a few of a large size were taken in the nets.

Pollock were reported quite plentiful on the coast in the months of June and July. Pollock left the shores with the close of the latter month.

Squid were also quite plentiful on our shores during the month of July, and on the 21st the fishermen began 'jigging' them for bait, as the week was very fine for operating. Squid kept on the coast in good supply until August 4, when they were reported as having left the grounds.

Dogfish appeared on our shores early in the season, and were in large quantities throughout the season, proving a hindrance to the fisheries at this station.

This station was established July 5, 1905.

MUSQUODOBOIT HARBOUR, N.S.

Reporter, Mr. George Rowlings.

Cod were not quite as plentiful along this part of the coast as last year but the vessels from West Chezzetcook prosecuting this industry made up for the deficiency in the catch. Light quantities of cod were reported to June 18, when fair catches were taken which continued at intervals during July and August. From September 8, onward to the close of the season, the average catch was fair. One vessel fishing out of West Chezzetcook was successful in obtaining 824 quintals of cod and 160 quintals of haddock, 984 quintals in all. There were only three weeks during the summer that cod appeared fairly plentiful and as nearly all the fishermen along this part of the coast from Dartmouth to Tangier catch lobsters until July 1, a very few, perhaps two or three in a harbour engaged in the codfishery throughout the season.

Haddock fishing at this station was about the same as last year, but twice the quantity of haddock was disposed of fresh this season than during the previous one. During the month of September haddock appeared in good quantities, and the catches were the best in that month.

Herring.—Quite a difference was apparent in the catch of herring as compared with the herring catch of last year. The largest quantity this season being taken at Three Fathom harbour, where herring struck in plentifully, and as all the boat fishermen from West Chezzetcook operate from there they made excellent catches; some boats securing from 50 to 60 barrels. Herring were also plenty for about two weeks at Clam harbour. These were the only places where herring visited this season in large

quantities. At other harbours in this district only small fares were reported. 2,522 barrels more than last year were salted this season.

Mackerel were nearly as plentiful on this coast as last year, the catch being about one-half of the quantity salted the previous season. None were reported sold fresh.

Salmon, trout and smelts were on an average fair this season. Quite a business is now being done at this harbour catching smelts with bag-nets. Last January, smelts were plentiful and those who were following up this industry did well.

Lobsters are reported holding their own although not quite as many were canned as in 1904. A larger quantity of live lobsters was exported during the season than formerly. May appears the best month for lobster fishing on this coast; after the middle of June, lobsters become scarce and small in size to the close of the season.

Returns showing the kinds and quantities and fish products taken in this district, which comprises the fisheries of Dartmouth, Eastern passage and Devil island, Cow bay and Lawrencetown, Seaforth and Three Fathom harbour, West Chezzetcook, East Chezzetcook, Petpiswick harbour, Musquodoboit harbour, Jeddore, Clam harbour and Owl's Head, and West Ship harbour.

Alewives.....	47 barrels.
Cod.....	6,282 cwt. dried.
“ sounds.....	1½ barrels.
Haddock.....	272,928 pounds fresh.
“	558 cwt. dried.
Hake.....	137 “
“ sounds.....	290 pounds.
Halibut.....	22,091 “
Herring.....	2,522 barrels salted.
“	7,000 pounds fresh
Lobsters.....	79,407 “ canned.
“	5,650 cwt. fresh in shell.
Mackerel.....	3,650 pounds fresh.
“	79 barrels salted.
Salmon.....	3,410 pounds fresh.
“	400 “ smoked.
Pollock.....	385 cwt.
Trout.....	4,575 pounds.
Fish as bait.....	616 barrels.
“ oil.....	2,541 gallons.
Smelts.....	38,800 pounds.
Clams.....	937 barrels.
Flounders.....	71,000 pounds.
Eels.....	67 barrels.

Seventeen fishing vessels and 538 boats, employing 522 men, were engaged in these fisheries during the past season. In the lobster industry five factories, valued at \$3,250, with 20,653 traps worth \$8,520, employed 50 hands. In addition to these were 296 smoke and fish houses, and 174 piers and wharfs, valued at respectively \$6,680 and \$6,960, and 7 tugs, steamers and smacks with a cost of \$480.

CANSO, GUYSBORO COUNTY, N.S.

Report from A. N. Whitman & Son.

This has been another off year in the history of the fisheries of Nova Scotia. Prices have ruled high, but the catch in about every branch of the business has been small, owing to a variety of causes.

Codfish.—Both on the inshore fishing grounds and on the outer banks, the catch of codfish has been small. Bad weather, a phenomenal scarcity of bait and the ubiquitous dogfish have combined to rob the fisherman of his wages. High prices for his products

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have helped to make good the losses from these causes, but only in part and the average net earnings of our codfishermen have been distressingly small.

Haddock.—The winter haddock fishery at Canso and its vicinity was about as successful as in the past. This has become an important factor in the world's operations, the growing demand for finnan haddies helping to maintain the market at prices that were profitable to all concerned. The spring and summer catch of haddock was only fair, the summer catch being particularly disappointing. The increasing use of nets in the capture of these fish is quite noticeable. The traps in the vicinity of Canso did a profitable business in April and May.

Pollock.—These fish were about as plentiful as for years past, and the larger price paid for them owing to the scarcity of other line fish made the business unusually profitable, though the prevailing rough weather was a serious obstacle to continuous operation. The use of the leather squid as an artificial bait for the capture of these fish undersail, by the method known as trailing, contributed largely to the success of the fishermen in this business.

Hake.—As we have before remarked, this is not a hake country, and the catch is not one that figures largely. The 'North bay' is the home of the hake, and so is a portion of the western bank. Scarcity of bait and the prevalence of dogfish in these waters made it difficult for the fishermen, especially around St. George's bay and Prince Edward Island, to get a fair reward for their labour.

Mackerel.—The spring and fall catches of mackerel were on the whole disappointing, though on the north side of Chedabucto bay and at its head there was good fishing and some of the inlets like River Inhabitants's basin and Lennox passage fairly swarmed with large fine mackerel in the month of June, and some men with only a couple of old nets made a fair voyage. The catch on the south side of the bay was fair, but not phenomenal. There is a growing business being done in the spring after the Scotch fashion, and it is proving profitable. The fall catch was disappointing all around the bay.

Herring.—Our fishermen have learned not to count much on a catch of herring, and there was nothing in this season's operations to encourage them to do differently. It has been difficult to supply the home demand for good herring, and that demand is not large, the public having drifted away from the use of the herring largely.

Salmon.—The catch of salmon was not large. The most of the fish are sold fresh now at remunerative prices, as compared with those of thirty or forty years ago.

Halibut.—Our principal supply of halibut comes from the vicinity of Sable island in April, May and June. This year the supply was smaller than usual, fewer vessels than usual having operated on that ground. A limited supply comes from boats during the summer months, but the same causes that hindered other fishing limited the supply of boat halibut.

Lobsters.—The catch of lobsters was disappointing. North of the strait of Canso there seems to have been an average catch. In this vicinity they are less plentiful. The Dominion government has erected at Canso a very well built and equipped hatchery for lobsters.

Squid.—The failure in the supply of squid for bait has been as pronounced as last year. At no time during the season was there an over supply such as usually occurs at some season of the year, and as nothing can fully take the place of squid as bait for summer fishing, the fishermen suffered accordingly. Up to the time of writing (November 25), the run of fall squid, which shows up about October 20, has only been moderate, not enough to fill the cold storage building now in operation, though quite sufficient for winter haddock. A notable addition to the cold storage plant devoted to this business has been made this year in the plant of the Canso Cold Storage Company toward the erection of which the Dominion government made a generous contribution. This is a fine brick building with a capacity of about ten thousand barrels, fitted with an ammonia outfit on the 'compression' system, and capable of giving a temperature of thirteen to fifteen degrees below zero, running eight or ten hours out of

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the twenty-four. What it would give if run continuously it would be hard to say. The engineer thinks that to run it continuously it would 'Pull the gizzard out of it.' Up to this date, this plant has stored about fifteen hundred barrels of squid. It is not anticipated that the squid will disappear before Christmas, and there is time enough yet to gather a considerable harvest. It will mean much for the early spring fishing if a fall supply can be laid in.

Dogfish.—These pests have been quite as numerous this season as heretofore—have been equally destructive to the gear, and a great hindrance to the success of our fishermen. A ray of light has come to illuminate the darkness of the prospect in the establishment at Canso by the Dominion government of a 'reduction plant' for the utilization of dogfish by converting them into fertilizer and oil. An abundant supply of dogfish has been obtainable, often overtaking the capacity of the plant. As much as two hundred tons per day have been taken in, and it has been estimated that a thousand tons per day could, at times, have been secured under suitable conditions. It is evident that the plant is inadequate to the demands to be made upon it, assuming that the dogfish continues plentiful. So far as it has gone, it has transformed a nuisance into a source of revenue to our fishermen, thousands of dollars having been paid out for raw material and labour already, and the catch is not yet over. The Minister of Marine and Fisheries displayed his interest in the enterprise by paying a visit to the works at Canso, and expressed himself as much pleased with what he saw.

PORT MULGRAVE, N.S.

Reporter, Mr. David Murray.

Cod.—The first report May 8, from this station, stated that ice in the strait of Canso had hindered all kinds of fishing to some extent, and on the 15th most of the fishermen returned south again on account of drift ice, but prospects both for net and deep sea fishing were very encouraging as soon as the ice disappeared from the coast. Fishermen arriving from Cape North, June 5, report good catches of codfish taken in deep water. A few codfish were taken June 19, on the coast at the north entrance to the strait. The *Etta Vaughan*, of Shelburne, in port July 10, had 600 quintals, reported fish scarce and no bait of any kind to be had. The following week the *Gladstone*, from Labrador, reported that any quantity of caplin could be had there, but the fish did not take kindly to them as a substitute for herring bait. Fish of all kinds were very scarce about our coast July 31. One American vessel, the *Lizzie Maud*, of Booth bay, Me., was baited with frozen herring here August 7 from A. and R. Loggie's freezer. Fish continued scarce to August 14, and appeared to have forsaken our shores altogether. Some large boats that operated the North bay all summer returned with only 40 quintals of ground fish. The prospects for fall fishing were now very poor, as many boats were being hauled ashore September 18 for the season. All 'dog' and 'no fish' was the result of the report for September 25, and on October 2 dogfish were the only species of fish in our waters.

Herring have been a failure on our shores this season, and as early as May 8 it was estimated that 140 vessels had gone to the Magdalens for bait and cargoes, where reports were encouraging. A few herring were taken at Harbour Bouche the latter of May, but since then herring have been very scarce. Two schooners arrived May 22 from Magdalens with full loads of bulk herring. They reported all the vessels there loaded, and bank fishermen obtaining the necessary baitings. A few good trips came in the morning of the 22nd from western bank. Vessels that arrived the 29th from western and middle banks report fish very scarce, none to be had near Sable island. Herring became very scarce on our coast in July, and many crafts after seeking in vain for bait hied to the Newfoundland coast for cargoes. Several American bankers and a large fleet of small Nova Scotia vessels were at this station July 23 from the North bay seeking bait. All reported 'no bait' from North cape to Canso. A few

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herring struck in Chebucto bay the first week in August, but the run did not last long. Many of the vessels left for their homes August 28 on account of the great scarcity of bait on the coast. Later in the season, September 11, there was good herring fishing at Harbour Bouche with some boats securing as high as 40 barrels of round herring in two days' and nights' fishing. The steamer plying out of Canso brought to the freezer at this station 200 barrels to be frozen for bait purposes. During the strike of herring on the coast vessels in port baited paying \$2.50 per barrel fresh. The run continued for a few days, when good catches were taken, after which herring disappeared from the coast and a great many of the fishermen hauled up their gear for the season, as the outlook for the future was not very promising.

Lobsters.—The spring opened fairly well until the N.E. wind in April brought the ice in the strait of Canso and Chebucto bay, retarding particularly the lobster industry. The lobster fishery, after the ice moved off, was very good and they were reported plentiful May 29; in fact, there were more lobsters on the coast this season than last, which kept the factory busy. Lobsters were still reported very plentiful along the strait coast the early part of June, and the fishermen are said to have done well this season in this one branch of the fishing industry. The two factories at this station packed 885 cases, and had the time been extended two weeks longer (to make up for loss on account of ice being late on the coast), 250 cases more would have been packed. The lobsters taken were exceptionally large, and were never known to be so plentiful along the shores and wharfs as during the past season.

Mackerel.—Good catches of mackerel were reported in Chebucto bay June 5, and five carloads of fresh fish were forwarded to the Boston market. The following week mackerel struck in vast numbers along the coast, particularly at Port Malcolm and in Chebucto bay, and very large quantities were taken—a greater quantity than has been for many years. From three to five cars of fresh mackerel daily passed through here, their destination being Boston, New York and Ontario. In addition to this, quite a quantity was frozen for bait; some salted and some fresh went to Halifax. The Boston steamer also took several shipments. A few barrels of mackerel were taken in the bay late in the fall with hook and line, the weather being too stormy for net fishing, which has not been of any account. The mackerel fishery this season in Chebucto bay was a very large catch, and the fish were of an exceedingly large size.

CAPE BRETON ISLAND.

WEST ARCHAT, RICHMOND CO., C.B.

Reporter, Mr. C. P. Lelacheur.

Cod struck in about May 1, and some fair catches were reported, but the majority of our people was then too busy with their lobster fishing to devote much attention to any other work. The fishing throughout the season has been variable, but generally poor. During the months of July and August occasional fair hauls were made, but the fish were flighty and seldom remained on the grounds for more than a couple of days at a time. The general catch of cod this season is small, not more than five hundred quintals being landed in this vicinity. There has been no improvement over last year and the scarcity of bait has again proven to be the greatest drawback to this fishery.

Herring of a small size were occasionally taken during the early part of the season, but only in small quantities. During the month of July these fish appeared close inshore and those who were provided with small mesh nets secured a few. It was not, however, until the 22nd of the month that the first large fish appeared. On August 1 and 2, herring struck on Bradley bank, where quite a number of small crafts had collected for fishing, but the catch was only light, and on the fifth they were reported in the inshore nets. From August 5 to 12 some very good catches were made again close

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inshore, this time being driven in by dogfish, which were swarming the bay at this time. Unfortunately, however, the majority of our fishermen's nets were set on the outer grounds, where the fish were expected to strike, and the best fishing was over before they got them inshore. The herring were of an excellent quality, being superior to any I have seen for several years. Not many 'softbacks' were noticeable this year. A large quantity of the fish caught were sold fresh to American and Nova Scotian fishing vessels for bait. They realized from \$1.25 to \$1.50 per hundred. The general catch this season was small, and our reporter would venture to say it would not exceed five hundred barrels.

Lobster fishing opened up May 1, the fishermen being prevented from setting their traps earlier, owing to the fields of drift ice moving back and forth in the bay. The lobsters were again scarce this year, no improvement whatever over last year. In fact they have now become so scarce that it is surprising so many of our fishermen continue following this laborious and unprofitable occupation when they might be occupied catching other fish which would yield them better returns. As stated in previous reports, the lobster fishing at this place especially is entirely overdone. By far too many fishermen follow this line, being lured by the high prices offered and paid by competing firms; they rush, as it were, blindly into the business to find when the season is over and their outfits paid for, that they have scarcely anything left. For example, during the past spring several fishing vessels called at these places to ship crews, and the most tempting offers were made by the captains to obtain men. Quite a number of fishermen who had previously been banking all their lives delined to go, thinking they would do better at home lobster fishing. The most of them regret their mistake to-day, as they failed to even make enough during the summer to supply the requirements of themselves and families, and are now compelled to seek labour wherever they can get it in order to get provisions during the winter. Fortunately, however, this class of people is not representative of the thrifty hardworking fisherman of this locality, the majority of whom are well provided with the necessary gear for general fishing. The lobster factory at this place receive their lobsters along a wide area of sea coast, stretching from Port Hawkesbury in the strait of Canso to Lennox ferry, and around the western portion of Isle Madame. The general pack at this factory was fair this season, the most lobsters coming from the straits where the catch was again fair this year. The passing of the lobsters in these waters is only a matter of time, unless better means are adopted to prevent the wholesale destruction of the spawn fish which continues unabated. The law as it is at present is inoperative and cannot be enforced, unless each lobster boat is policed with an officer. The fishermen believe in making every fish count, and this can be easily done in the matter of spawn fish by removing the eggs.

Mackerel struck in on June 5, when several fishermen had from 500 to 1,200 fish. At a place known as Thomas' Head, a few miles from this station and down through the Lennox passage the catch was exceptionally good. On the 6th, good fishing was again reported being even better than the day before. On the 7th, they were driven out by an easterly wind, but returned again on the 8th and 9th, when fairly good catches were again made. The 10th and 12th, saw the fishing not so general, the fish having left the bay for good, none being taken after the latter date. The total catch of mackerel this season was good being much better than last year and nearly as good as the year previous (1903) which was a banner year in the mackerel fishery. It is impossible to estimate the number of barrels caught in this district as fishermen flocked here from everywhere and as lots of the fish were sold fresh and carried to other ports for a market our reporter could not safely guess at the possible quantity caught.

PETIT DE GRAT, C.B.

Reporter, Mr. P. T. Fougere.

Cod first appeared on the coast about the same time as small herring put in an appearance and were in fair quantities on May 16 and 17. Bankers arriving the

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latter part of May reported cod scarce on the outer grounds, but there was an improvement in the deep water fishing on June 10, although the inshore fishery was poor. Dogfish came on the coast the middle of the month, and took possession of the outer grounds and as a result the fishing became dull. Bait also retarded fishing early in the season and clams were used instead. The arrivals, *Lady Laurier*, *Florence M.*, *Lizzie May*, and *Lene Jane*, from the outer grounds reported cod in fair numbers but weather stormy. The following week fishing in general would have been fair but dogfish being in such abundance, nothing could be done. Occasionally, owing to bad weather, fair catches of cod were taken during the remainder of the season and whenever boats were able to get out they found fish in fair quantities. The inshore codfishing was reported good the past season, but on the middle and outer grounds fishing was poor. About 950,000, pounds of cod were sold here; some of which were dried and forwarded to the Halifax market, and a portion was manufactured into boneless fish, which was exported to the United States.

Haddock were taken in fair catches on May 16 and 23, and were scarce after to June 7 and 10, when fair haddocking was reported. To August 3 and 4, when fair fishing was reported, haddock continued on the coast. Small fares were taken after for the remainder of the season. It is very difficult to estimate the catch of haddock at this station, this season, as fishing smacks of about eight or ten tons from Canso are on the grounds every day buying the fish as soon as they are caught. The fishermen however, complain about a scarcity of haddock this season.

Herring were the first fish to appear in these waters on or about April 10. There was a good quantity going at the time, but they did not remain long on the coast. A few were taken during the run to the 2nd week of May after which herring became scarce. Nothing of any account was reported after until August 25 and 26, when good catches were made. The American banker *Maggie May* baited this week. It was reported on September 2, that the past week had been a very stormy one for fishing, the fishermen losing quite a quantity of nets, &c., by Monday and Tuesday's storm. This was followed by rough sea and heavy tides. A large school of herring struck in on September 4 and 5, and netters made good hauls; some averaging from 400 to 900 herring each. Six American bankers and twelve Nova Scotia vessels baited at this port, paying \$1.25 per hundred (by count) for herring.

In addition to the quantity sold fresh for bait, about 400 barrels were cured and disposed of to local dealers, and a quantity was forwarded to Prince Edward Island where it found ready sale.

Lobster fishing was reported fair in May to the 20th, when heavy easterly wind and tide prevented further fishing for a few days. Very light quantities of lobsters were taken to the end of the month, and on June 2 a gale occurred which destroyed the lobster traps to such an extent that the wreckage was strewn along the shores, and many of the fishermen who went out the following day could not find one half their gear. After this storm, the catches were extremely small to the close of the season.

Mackerel were first reported when they struck on the coast in good quantities June 1, and a fair catch was reported to the middle of the month. The schooners *J.B.M.* and *Maud* in port July 1, from the Magdalens reported a failure in the mackerel fishery. The former hailed for 10 barrels; the latter for 7 barrels. Although not regularly reported mackerel were said to have been numerous on the coast early in the season, but no large catches were taken as the fishermen did not have suitable nets for mackerel to mesh in.

Dogfish appeared on the coast June 17 very plentiful, and continued in vast numbers and very troublesome throughout the season. In September large quantities of dogfish that had been caught at various localities in Madame island were forwarded to the reduction plant at Canso, which was now overtaxed.

The ss. *Nelson* also makes daily trips for this fish, but the fishermen do not exhibit any eagerness in supplying any as they consider the price offered, \$5 per ton, rather too low a figure. These dreadful fish have done lots of destruction to the fish-

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eries and gear the past season, and I would say that about 25 tons were caught and sold when the fish were plentiful on the coast. Thousands of tons more of dogfish could have been obtained had better prices prevailed, and again the 'reduction plant' at Canso could not handle successfully the quantities sent there from the various fishing stations. Were a similar reduction works established at this station, large quantities of dogfish would be easily destroyed as St. Peter's bay during the past season was simply alive with this fish, and the fishermen would catch them with pleasure, for they have proved to be the fishermen's enemy.

MAIN À DIEU, C.B.

Reporter, Mr. George W. Dickson.

Cod were taken in light quantities early in May, but it was not before the 29th that they struck in fair numbers. On the 31st, it was reported that the codfishermen had scarcely got to work as yet, saving a few trawls that were set inshore, which indicated that the codfishing was on a par with other seasons. A few codfish were taken in the bay early in June, but none outside. The scarcity of cod to July 5 was said to have been due to the want of bait, there being no summer herring going or mackerel on the coast. Herring struck in fair quantities the early part of August, and as a result good catches of cod were obtained. Cod have been taken in fairly good catches late in the fall, but bait has been reported very scarce until the strike of squid on the coast the middle of October, which gave the codfishery a brighter outlook.

Herring reported taken in May 2; were said to have been in better supply than the corresponding period of last year and were fairly good to the end of the month. The fish were very scarce during June and July, but in August more herring were caught during that month in Mira bay and around the island of Scatterie than for the past six years. In September no herring were taken, owing to the abundance of dogfish which destroyed the nets set. A scarcity of bait was reported in October to the 16th when squid struck in, which will give the fishermen a chance to obtain a supply of bait for operations later in the season.

Lobsters.—The first weekly report under date May 2, received from this station at the Bureau stated that fishing was not commenced to any extent to that date and on the 1st, a few of the fishermen set a few traps for trial being afraid to place out a larger quantity owing to drift ice being only 3 or 4 miles off the coast. Although the coast was reported blocked with drift ice, three boats set one dozen traps for two nights and bringing them ashore saw good signs of lobsters and some herring. On the 19th of the month, the coast here and all around Scatterie was said to have been hemmed in with floating ice, but the conditions prevailing were very favourable as the wind was westerly and the ice was starting from the shore. The few traps that were set up the bay a short distance from here were hauled a few times and averaged about five lobsters to a trap. Those engaged in the lobster industry were now getting very anxious about the ice remaining so long on the coast, as May generally proves one of the best months in our vicinity for lobsters. The coast was clear of ice by the report of the 25th, and what traps that were set out did fairly well. Good catches of lobsters were taken the latter part of May and in June to the 3rd, when a storm that visited the coast wrecked a large number of traps. The fishing continued fairly good to June 28, when it was stated that the weather during the month of June was very unfavourable, there being four heavy storms to date causing heavy seas that wrought havoc on the fishermen's gear. To the close of the season the fish became scarce, few places where they were not open to the south-east winds, the catches of lobsters. On the whole the lobster fishing has not been as good as the past year, although in a were about the same. The price given by packers being 50 per cent less than last year was quite a loss to our fishermen and between the loss on the catch and the reduction in the price received for lobsters, the fishermen will be poorer off this season by

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\$50 per boat. The lobster fishermen held a meeting to try to obtain the same price paid them for their catches as prevailed the previous season, but were unsuccessful in their endeavours; they also found out later that there was a law to the effect that no more new factories could obtain a license to pack, which makes it look hard for our fishermen in this district, as all our men who are able to work are employed in the lobster industry during their season. At the close of the lobster season all the fishermen will fit out in larger boats and engage in the codfishery.

INGONISH, VICTORIA COUNTY, C.B.

Reporter, Mr. Godfrey Jackson.

Codfish first appeared inshore on our coast about May 17, in small quantities, after which fair fishing was reported to June 12. Fairly good reports were received from this station on June 16, 17 and 22. The fishery in July varied from good to fair, it being reported on the 8th of the month that owing to the prevalence of dogfish in such quantities on the coast in this locality the fishermen were almost prevented from handling inshore. The larger boats that were using trawls and operating in deep-water were not hampered so much from this pest, and only for the frozen herring that the fishermen obtained from the freezer, they would have been unable to prosecute the industry at all, as no herring or mackerel of any consequence had been taken since the spring run of herring. The catch of cod in August was on an average good, and during the months of September and October to the 20th, the fares were reported very poor on account of dogfish which is becoming more and more plentiful on our shores. The catch of codfish at this station is considered a medium one although not as good as in former years. The good price that prevailed here for fish during the season will about make up for the shortage in catch.

Haddock came on our coast about May 20, but none were taken in catches of any consequence till about June 12, from which date to the 24th, the fishery varied from very good to fair. The catch of haddock to the closing of the season was on an average good.

Herring.—Spring herring struck in very plentiful about May 10, continuing such for two weeks after which the fishery slackened off and very few were taken. About 80 barrels were frozen in North Ingonish freezer and made use of for cod and haddock trawls by our local fishermen. The balance of the catch was utilized by the lobster fishermen for lobster bait.

Lobster factories commenced operations about May 20, and to the 30th of the month fair quantities were taken. During the following nine or ten days, lobsters appeared quite plentiful and good fares were obtained. In the month of June to the 25th, the catches varied from good to fair, although it was reported on the 6th, and towards the end of the month that recent storms had destroyed a large number of traps. The lobster catch, taking everything into consideration, has been a fairly good one for our fishermen who appeared to have been perfectly satisfied with the results obtained from this fishery this season.

Mackerel have been reported a total failure at this station during the past season. In June on the 17th, boats were averaging about twenty, but very few mackerel were stopped by our fishermen, the fish passing outside in deep water about seven miles off our shores.

Salmon were first reported on June 3, and not again until the 14th of the same month and then in light catches. The salmon taken were small in size and continued very scarce to the end of the season. The run of salmon at this station this season may be considered almost a failure for our salmon fishermen.

Squid were very late in arriving on our coast this season. Signs were reported the latter part of July and August, but the fishermen were unable to obtain a sufficient quantity of squid for bait. To the present date (October 20) squid is very

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uncertain and scarce, owing to the roughness of the weather and so much northerly winds which are against the remaining on our coast of this very desirable bait-fish.

Hake were fairly plentiful on our coast this season. Quite a number has been taken on trawls in deep water.

Dogfish were more plentiful this season than ever on our fishing grounds, and are becoming more and more a source of great nuisance to the fishing industry. Should nothing be done to destroy this pest in our waters our fishermen will be unable to earn a livelihood.

The following is considered a fair estimate of the fish caught at this station this season:—

Cod..	700 Quintals.
Haddock..	600 “
Pollock..	30 “
Herring..	100 Barrels.
Salmon..	5 “
Lobsters..	200 Cases packed.
Mackerel..	1,000 Count.

INVERNESS COUNTY.

CHETICAMP, C.B.

Reporter, Mr. Chas. E. Aucoin.

Following is my detailed annual report of the fisheries which have been operated for the present year at the following stations: Cheticamp proper, Cheticamp island, Grand Etang, Cape Rouge and Pleasant bay.

The Gulf of St. Lawrence was not entirely cleared of ice until May 10. Even on the 12th, great ice cakes appeared floating at random, apparently obeying the course of the ever-varying currents, till driven off by a south-westerly breeze in a north-easterly direction. Lobster trappers, however, who had commenced setting a few traps on the 10th, were forced to raise them owing to those ice-floes which would come in contact with head-ropes and cause serious damage.

Navigation, however, was opened on May 10, and the schooners *May Flower*, *Mary Lambert*, and *Gertie Belle*, cleared on that day for the Magdalen isles to secure a supply of herring bait. They returned on the 15th, five days after with respective hauls of 200, 125 and 194 barrels. The quality of this Magdalen herring was very much the same as last year. The greater part of this herring was used to bait lobster-traps and cod-trawls and was stored in the refrigerator at Eastern harbour to be taken out again whenever available. None struck upon these shores in the early spring as was usual in former years; but the fall herring, the description and quality of which has been given in my report of 1903, have visited again the inshore grounds and a few have been captured in nets. This November herring it will be remembered finds its way through the mouth of the harbour, going as far as the head of the bay and giving the fishermen a safe and ample opportunity in effecting a capture. It sometimes remain till late in December. The July herring so called, was a month later in striking the shore this season. Properly speaking, it was an August herring and remained on shore till late in September. Medium hauls were made by netters ranging from one hundred per net. An exceptional capture of this herring was made at Friar's Head in the latter part of August. It was of an extraordinary quality and would have well served as a highly nourishing article of diet, but unfortunately the fishermen at that place owing to their failure in securing any other kind of fish for bait purposes had to use it as 'poggy' for mackerel. The lobster-trappers on the whole have done a fairly good season. Lobster, unlike many other fishes, is the one which will most maintain an even yield throughout the season,

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that is it is not subject to so great fluctuations as are cod, mackerel or herring. Catches ranging from one hundred and fifty to two hundred and fifty pounds per boat were made in the early part of the season. Traps were first baited with fresh herrings, but as soon as cod and haddock offal was available it was substituted. It was found out, however, that the offal or refuse from the haddock was far from being suitable as an appetizing food for lobster, lacking the necessary nourishing elements which are found in those of the cod and even the thin spring herring. Cod, hake and haddock, which might be called the staple fishes, have in general yielded below the record of last year, although in the beginning haddock promised an extra catch and favoured the thrifty fishermen with goodly satisfactory hauls at times. What hampered the progress of these fisheries on the whole was the inability to secure a sufficient supply of bait, say squid, at the proper time. Squid struck the shore on the last days of July, but disappeared for a certain time. When it reappeared again it played very badly and continued to do so until late in the season. Here the refrigerator at Eastern harbour rendered some good service to the fishermen in the way of supplying them with frozen bait whenever debarred from securing a proper quantity of fresh bait at sea. Another great impediment to the capture of these fishes was the noted scarcity of them right off shore. Throughout the season the smaller crafts, the majority of them without decks, have been forced to venture out in mid-gulf to the grounds where these fishes have found their congeniality. It was quite hazardous for these frail and tiny boats to sail onward till they lost sight of land, and where they generally found themselves more than half way between Cheticamp island and the Magdalen islands. Salmon nets were set about June 1. The fishing was poor at the start, but improved gradually and was accounted fair from the ninth to the twenty-first of the month. The balance of the season was much characterized by a periodic increase and decrease. Because of its fair price, salmon netters on the whole made a very profitable year. The fish was of a standard quality and weighed well.

Turning now to the mackerel industry, I am glad to report that the season of 1905 was a very productive one. The high price paid for the fish made it also a very remunerative one. Had the fishermen turned their attention to mackerel fishing a month or so before they did, the season would have been a record breaker. Small mackerel began schooling off Grand Etang and Friar Head as early in September 15, when a few were captured and used as bait for cod. Then followed about the last of that month the large mackerel, the size of which has never been excelled. It generally took from one hundred and five to one hundred and ten of them to fill the barrel. Never in my experience have I seen a better quality of mackerel. It must be borne in mind that the almost entire cessation of the industry for a number of years owing to the presence of dogfish on the grounds, had baffled all hopes of ever seeing this important fishery revive. But now there has been a turn for the better, and the time is looked forward when the industry will have fully attained its former state. What has been most noticeable about this fall mackerel is that the fish was being 'jigged' from among schools of dogfish, the latter apparently having ceased to be an enemy to the smaller kind. This fact was evidently confirmed by the fishermen on reporting that they did not suffer any serious inconvenience from dogfish in catching mackerel.

The station at Grand Etang has achieved the best record in the mackerel line this season, although it had figured poorly in that fishery when compared to other stations. The fact that it had the highest mackerel figure this year is because the fishermen of that station kept a certain extent of surface water continually baited, thus alluring mackerel over a certain spot. I do not believe in a fleet of boats scattering themselves far and wide and trying to raise mackerel from the bottom individually. In nine cases out of ten mackerel will come up to the surface for a few minutes and then vanish for the rest of the day. It is a fact that boats gathering as near to one another as possible and keeping a close superficial area of water well oiled with fat bait will raise mackerel much easier, and when once raised to the surface will keep for a longer period of time. Fishermen frequently use balls of ground herring of the size of a

large apple which they sink to the bottom in order to raise the mackerel the quicker. Considerable hauls of them have been captured when being enticed in this manner. No commerce of any kind has yet been established here in smelt fishing, and the quantity which is being captured is used as a local consumption. A good paying trade could be grown here if smelt fishing was well prosecuted. No effort is being made in this direction, because people cannot be made to understand its commercial value. Financially, I do not see why the northern portion of Cape Breton could not do as well in this line of fishing as the near by provinces. As usual, Plateau river has had its millions of this tiny fish during the spawning season.

It has been a subject of much consolation to the fishermen that the dogfish have been much less troublesome than formerly. The idea is entertained here that they will eventually leave these shores for other congenial resorts to which instinctive call they naturally respond. Their voracity as experienced by fishermen in former years when the fish entered the Gulf of St. Lawrence can hardly be given credence. Their hunger almost driven to madness caused terror and confusion among shoals of other fishes. Nets by the dozen were torn in pieces; fathoms of cod-lines were cut and taken down the bottom with their hooks and 'leads.' They even gnawed at the hull of the boat and whatever morsel might chance to fall overboard it was devoured with the rapidity of lightning. There are instances of them also feasting upon their own flesh. I shall maintain the fact that the flesh of the dogfish contains no oil whatever which fact speaks strongly against the prejudices which some people entertain in connection with this fish. I speak from experience when I say that the flesh is quite succulent and savory.

I shall now give a recapitulation of the condition of the staple fishes as shown in my daily messages for each month. Nothing was done in May before the 17th, when cod and haddock figured poorly and lobster fluctuated from 'good' to 'fair' for the remainder of the month. June has a better showing and lobster went 'fair' up to the 17th, but changed to poor up to the 24th, and returned to 'fair' the balance of the month. Cod and haddock ran 'poor' up to the 13th, when haddock turned 'good' on the 14th and 15th, 21st and 22nd and 30th; and very good on the 24th and 26th. Both ran 'poor' on the other days for the rest of the month. Salmon was 'poor' up to the 8th, and fair on the 9th and 10th, but figured good on the 12th and 13th. It then returned to 'fair' up to the 21st, and ended 'poor' for the balance of the month. July shows cod 'fair' on but two days in the month, the 3rd and 18th. Haddock shows somewhat better. Lobster ran between 'fair' and 'poor' till the close of the season. Salmon figures 'very good' on the 10th, 11th and 12th. Hake figures 'poor' for this month. August has a poor show in all lines. Cod and haddock figure 'fair' on but two days in the month. Breezes from the west and north-west were prevalent during the large part of the month. Cod, hake and haddock were poor during September with the exception of the 19th and 20th, when they figured 'fair.' Mackerel has one 'fair' day in this month. October has only three fishing days from the 2nd to the 14th. Cod was 'fair' on the 2nd and 'poor' on the 3rd. Heavy gales commenced on the 5th and continued to blow till the close of the season. I shall conclude this report by giving in tabulated form a synopsis of the season's catch as operated at the different stations named:—

Cheticamp Proper.

Cod..	..qtls.	1,765	Mackerel..	..bbls.	355
Hake..	.."	37	Herring..	.."	50
Haddock..	.."	610	Cod-roes..	.."	1
Pollock..	.."	30	Lobster..	..cases.	536
Dogfish..	.."	20	Dogfish..	.."	135
Salmon..	..lb.	18,831			
Cod-oil..	..gals.	20			

Cheticamp Island.

Cod..	..qtls.	300	Mackerel..	..bbls.	17
Hake..	.."	10	Lobsters..	..cases.	284
Haddock..	.."	74			

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Grand Etang.

Cod..qtls.	1,203	Mackerel..bbbls.	485
Haddock.."	355	Lobsters..cases.	350
Hake.. . . . .	.."	34	Cod-oil.. . . . .	..gals.	355
Pollock.. . . . .	.."	98	Dogfish oil.. . . . .	.."	525

Cape Rouge.

Cod.. . . . .	..qtls.	25	Herring.. . . . .	..bbbls.	10
Haddock.. . . . .	.."	5	Lobster.. . . . .	..cases.	715

Pleasant Bay.

Cod.. . . . .	..qtls.	10	Mackerel.. . . . .	..bbbls.	30
Cod-oil.. . . . .	..gals.	50			

The estimate from Pleasant bay has been gathered from a reliable source although it appears that some has been underestimated.

PRINCE EDWARD ISLAND.

ALBERTON, PRINCE COUNTY.

Reporter, Mr. David Montgomery.

Cod of a large size were reported plentiful on the coast from the first time they were taken in traps on May 19 up to July 1, when they moved off shore and the catches were smaller for some weeks. About the middle of July, dogfish appeared on the coast and destroyed the codfishery for the remainder of the season. Numbers of cod and hake were driven ashore by these voracious creatures.

Haddock were scarce as usual and it is doubtful if this fish frequents our waters in large numbers.

Hake.—The catch of hake in this district this season was unprecedentedly large. The quantities taken until driven away by the dogfish exceeded any catches for many years past.

Herring were taken at this station this season as early as April 10, and catches were reported fair, which continued throughout the month. In May herring struck in immense quantities supplying the lobster packers with bait as well as all other branches of the fisheries using herring for bait.

Lobsters.—From the beginning of the lobster season, April 25 to May 20, the fishing was very good. On or about the latter date the lobster fishery was retarded by stormy weather. A continuance of gales and heavy N.E. storms destroyed many of the traps between May 27 and the middle of June, which made the catch late in the season. Notwithstanding all these drawbacks, the pack was an average one.

Mackerel.—The mackerel fishing commenced about the middle of June with good prospects and for two weeks the netting was very good and some large takes were made. From this date onward mackerel fishing gradually grew less till the netting season was over. Hooking during the season was very light all around, but this season's fishing compares favourably with that of last year.

Trout fishing was reported extremely light during the entire season.

BLOOMFIELD, OR MIMINEGASH, P.E.I.

Reporter, Mr. Edmund D. Kelly.

Cod operations began about May 29 in light catches for a few days at the beginning. A few good hauls were taken between June 3 and 8. Fair to poor fares were reported to July 1, when the fishermen had two weeks of fair fishing. Very good

codfishing was reported to the 28th, continuing the same to the arrival on the coast of dogfish August 5, when an occasional fair haul was made to the 15th of the month, with a scarcity after to the 26th. Fair codfishing was reported on September 5, and light for the remainder of the season.

Hake appeared in good quantities on July 13, and to August 3, good trawling was reported. A few fair catches were taken to September 5, when the weather became so stormy that all operations ceased; then dogfish put in an appearance causing a general scarcity. Hake fishing on October 1, was extremely light.

Herring fishing commenced May 1, with good results for about one week, when fair stops were made to the 9th. Herring increased in large quantities on the coast to the 25th, and bait was reported plentiful. To the close of the month herring fishing was fair and scarce after throughout the season. A few fall herring were caught at Campbellton on September 14.

Lobster fishing began good on May 1, but a storm which prevailed on the 2nd, wrecked considerable of the gear set. Fair quantities of lobsters were obtained to the middle of May when the fishery slackened and very few were reported to June 1. Lobstering was poor after to July 5, and to the close of the season were exceedingly light in catches. It was reported on July 4, that a storm which occurred the past week damaged the traps to such an extent that nearly all the lobster gear was brought ashore.

Mackerel were first caught in nets on June 16, and to the end of the month and July 1, fair stops were made. During the remainder of the season the catches were very light. The mackerel taken in July and August was used principally for bait purposes.

The estimated quantities of fish taken in this district, are as follows:—

At Campbellton.

Number of lobsters by count.	55,000
Cod and Ling.	90,000 lbs.
Herring.	330 bbls.
Lobsters.	130 cases.

At Miminegash.

Codfish.	130,200 lbs.
Ling.	170,000 "
Lobsters.	100,000 "
Herring.	710 bbls.
Mackerel	14 "
Lobsters.	450 cases.

MALPEQUE, P.E.I.

Reporter, Hume Hopgood.

Codfish were late in coming on the coast this season, and were first reported when a few were taken on trawls June 2. Fair catches were made during the remainder of the month, and in July with several good fares in August when the weather was favourable. The months of September and October were very stormy, but occasionally few fair fares were obtainable. It was reported that the past season has been a very poor one, owing to the windy weather and at times a scarcity of fish. Dogfish were also on the coast in great quantities, and consequently the catch was considered small, not quite two-thirds of last season's catch.

Herring struck in light June 4, with fair quantities going the 6th and 9th. To the end of the month the fishing was extremely light, saving the 15th, when herring were reported good. Herring were reported not quite as plenty on the coast this sea-

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son as in former years, but a sufficient quantity was taken for local purposes. 4,015 half barrels was reported the catch.

Lobsters were first taken about May 1; the catch being on an average fair the first of the season. The annual storm which attends the lobster fishery at this station badly destroyed a great quantity of gear used in this fishery, and as a result the pack was not as good as the previous season.

Mackerel.—None were caught by hand lines this season. Good catches of mackerel were reported taken off-shore by netters the latter part of June and in July. About 200 barrels were stopped. Owing to the large quantities of dogfish on the shores all nets had to be removed to save them from the ravages of this most destructive fish.

Dogfish were on the coast in very large quantities throughout the fishing season, proving a great hindrance to the best interests of the fisheries in general.

NEW BRUNSWICK.

GRAND MANAN, CHARLOTTE COUNTY.

Reporter, Mr. Charles Dixon.

Cod were first taken this season May 24, when vessels made catches of 15 quintals of cod on the Bulkhead off Garnet rock, and to the end of the month fair codfishing was reported on the Bulkhead and Gravelly Bottom. In June to the 10th, the catches improved very much in the same locality and some small vessels during the week caught as high as 25 quintals in one day's fishing handlining. The cod taken were very fine in size and quality. Bad weather setting in the middle of the month prevented the fishermen from visiting the grounds, but to the 24th, good fares were taken. Dull weather and a scarcity of bait caused the catches to be rather small during the latter part of June. Cod again showed well July 1, and the fishing all the week on Gravelly Bottom and Bulkhead was very good, small vessels averaging from 30 to 40 quintals. Fair hauls of cod were taken after to the 30th. Line fishing was reported very light August 5, attributed perhaps to the arrival on the coast of dogfish which have also hung up the trawlers for a while. No large catches of cod were taken to August 12, and the fishing was very dull after to September 23, when one weir at Grand harbour made a catch during the week of 4,000 cod in one tide. The report of September 30 stated there was no line fishing being carried on and the fishermen had given up trawling for the season. Codfishing also was reported about over, and the season closed with about the same catch recorded as during the past two years, 1,000 quintals, which realized a good price.

Haddock appeared on the coast in North channel and off Swallow Tail light during the month of June, and were very scarce after to the month of August, when several catches were taken. During the remainder of the season, haddock were scarce, and 400 quintals is estimated as the total catch.

Hake were first caught during the week of June 10 in North channel, when one boat had a few. Off Swallow Tail light the following week boats were averaging four quintals per day. Hake struck in at Swallow Tail light June 24, and 15 quintals per day was the reported catch. Fair hake fishing was reported the latter part of June, and July 1 in the North channel and off the light, with good fares in the same locality the middle of July, which remained the same to the 22nd. Light fare were taken to August 19, when exceptionally good hake fishing was reported by the boats with a crew of two men, whose daily catch in North channel averaged as high as 9 and 10 quintals of hake. Trawling was also carried on successfully the week of the 26th, and trawl boats averaged per day from 12 to 15 quintals. In September, the early part, good fares of hake were taken and the catches decreased to fair to the 16th, with the boat stocking from four to five quintals. Several catches were taken off Swallow Tail

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the latter part of September, and on the 30th the fishermen ceased trawling for the season. The few boats that engaged in this particular branch of the fisheries at this station were successful in stocking for the season 5,400 quintals, which were dried and sold here for \$2.25 per quintal. At the fish factory of J. Sutton Clark, at North channel, 1,200 cases of hake were canned during the season. In addition to this 10,000 gallons of fish oil have been put up and 6,500 pounds of hake sounds were disposed of at 25 cents per pound.

Herring.—The weekly report of May 27 did not contain very favourable news concerning this very important industry carried on at this station. There were no herring to net and none in weirs, and the bait used by the fishermen was large herring, but poor in quality, caught in ponds at Dark harbour, where they were allowed to enter and kept there until they are starved, and when prepared for bait purposes usually presented a black appearance on the inside caused by their close confinement. The sardine factories at Eastport and Lubec were reported, however, doing very well putting up little herring caught on the coast, which are so small that their heads had to be 'snipped' before canning them. This, I think, if allowed to continue, will cause the herring on this coast to be a 'thing of the past.' The ponds at Dark harbour were still supplying large herring for bait to June 10, when herring of a large size were reported schooling in good quantities on Grand Manan bank, and off South head schools of medium sized herring were noticed. Plenty of large herring to net were on the Rippings the middle of June, and it was expected the run would be good at every spring of the tide from this date onward. During the week of June 24, large quantities of herring were taken on the Rippings in the day at every tide, and at South head herring in weirs were reported. To July 1 small herring appeared at Seal cove with a good supply of large fish on the Rippings to July 8, when the cable between Campobello and Eastport broke, causing an interruption in the forwarding of daily messages. On July 15, large herring put in an appearance on the soundings and throughout the following week net fishing on the Rippings was very good, the fishermen getting all the bait they desired, some vessels catching as high as 40 barrels of herring of the largest kind in one day's fishing. To August 5, net fishing of large herring had been extra good and small vessels were netting from 30 to 40 barrels. A fair catch of large herring was taken to the 15th of the month on the Rippings and at North head and on the 19th a few small herring in weirs were caught at Seal cove and a few at Long island. Plenty of large herring to net at South head and herring in weirs at North head were reported the week of August 26, and a large school of net herring struck in at Flagg's cove the same week when the fishermen did well, one man to a boat catching in a night, 10 barrels. The herring fishery in September was exceptionally good, plenty of herring being reported in weirs at Seal cove on the 2nd, as high as 500 hogsheads were taken to one tide—that would be seining the weirs once. Weirs also at Long island were making catches and the net fishermen at Flagg's cove took 15 barrels to a boat in one night's operation. The fishing on the Rippings this week was good, so the fishermen were doing well in this industry. The cable was repaired by September 9, and net herring were reported all around the islands. The latter part of September the weirs at Seal cove, Grand harbour and Long island had all made good hauls, taking 500 hogsheads in one weir, but the fish were running small in size. During the month of October, net fishing was reported fair at Three islands and Grand harbour, where bait in traps and nets could be obtainable on the 4th, 5th and 6th. The P. P. Russel Kipperd Herring factory at Grand harbour put up this season 2,000 cases of kippered herring for market, and 4,000 cases of smoked kippered herring (dry) in wooden boxes. There were 5,000 barrels of herring sold fresh to American vessels this season, and 5,000 barrels exported to the United States. 1,500,000 boxes of herring were put up and smoked on the islands during the past season. 9,000 half-barrels of pickled herring were put on the market this season, which realized good prices, and N. McLean canned at his factory at North head 20 cases of kippered herring.

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Lobsters were first reported when they made their appearance in very large numbers at Dark harbour on May 24, with fair fishing to the 31st. It was reported that 1,180 cases of lobsters were packed at the Grand Harbour factory this season. The value of the output is estimated at \$10,620.

Halibut were taken the first of June on the coast, and on to the 10th were reported on Gravelly Bottom.

Pollock.—Good pollock fishing was reported on the Rip in the month of May and the early part of June on the Soundings. The Bulkhead and Gravelly Bottom fishing also showed good on June 24, and fair quantities of pollock were taken in the month of August when there became a scarcity of pollock on the coast and no quantity of any consequence was seen until September when it was stated the 23rd, that one weir at Grand Harbour had taken in one tide as many as 4,000 large pollock. To the run of pollock on the coast is attributed the weir fishing of herring being dull. It was reported October 7 that large pollock had driven the herring so hard that they would not go into the weirs.

Dogfish arrived on the coast August 5, occasioned the hanging up of the trawlers for a while, the fish being reported very plentiful on our shores during the month of August and in September. J. Sutton Clark's fish establishment canned during the season 50 cases of dogfish.

Dulse.—The greatest industry of all carried on at this station is dulse picking. This article is taken off the rocks at low water and sometimes brings as high as six cents per pound on the market, but this season dulse only averaged four cents throughout the season. There were gathered in all at this station this season, about 50 tons.

Ice was in good supply during the season at North head.

ESCUMINAC POINT, NORTHUMBERLAND COUNTY, N.B.

Reporter, Mr. John Wallis.

Cod.—Light fares of codfish were reported in June from the 15th to 30th, excepting the 26th, on which date good catches were taken which continued the same the first week in July, afterwards becoming fair to the 29th of the month. In August cod were on an average fair with a fair catch to the 12th, and light quantities on the coast for the remainder of the season. Total catch about 1,000 cod.

Lobsters.—The month of May was a very fair one for lobster operations and some good fares were reported. June also showed up fair to the 19th, and light for balance of the season. There were landed at this station and vicinity in all about 800,000 lobsters the past season. The fishing was very dull in deep water, but the fishery was good in waters which showed from four to five fathoms. Easterly winds also prevailed during the lobster season.

Herring for bait struck in fair May 1 and good stops were made the 3rd, 4th, 6th and 8th of the month, when herring were plentiful on the coast. A few shoals of spring herring were going to the 17th.

Mackerel.—No mackerel of any consequence was reported this season.

Salmon fishing was reported a good one at this station this season. About 5,000 salmon were caught which is equal to 50,000 pounds net.

Shad were reported scarce this season.

Bass.—There was no bass fishing the past season at this station. They seem to have completely failed on our shores. Only about 300 pounds were taken. It is thought they make the rivers in close season, from the first to the last day of October.

SHIPPEGAN, GLOUCESTER COUNTY, N.B.

Reporter, Mrs. M. J. Robichaud.

Cod.—During the week of May 22, the fishermen engaged in this pursuit went out in search of cod, but were unsuccessful, as no signs of cod were seen on the in-
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shore grounds or near the Prince Edward Island coast. A few fish were taken the latter part of May and on June 5 it was reported that the codfishing was very poor, and 300 cod were landed by vessels which arrived in during the week. The dull condition of the fishery was no doubt due to the scarcity of bait, and the highest fares taken to June 12 was 1,000 cod. Some vessels that come in port on the 24th had 2,000 cod and haddock; others only reported a few hundred. Herring were very scarce about now which is the cause for the bank fares being so small. Fishermen operating July 3, reported cod in fairly good quantities the past week, but they were greatly handicapped by heavy storms and boats only averaged from 600 to 300 cod and haddock. Fifty cwt. was the catch the following week and on the 17th a few boats had 1,500 cod, others from 400 to 50. From now to the month of November cod became very scarce. This season's catch along this coast is much below that of last year.

Herring fishing began very good the last week in April and during the month of May herring were reported very plentiful on the coast between the 5th and 23rd with fair fishing on the 27th and 30th. It was reported May 16, that 2,000 barrels were taken the past week, a portion of which was frozen to be shipped to outside markets. 1,000 barrels was the catch the following week, half being salted for lobster bait and the remainder was utilized as fertilizer. Herring were fair in June, but during the months of July, August, September and to October 15, herring were very scarce and fishing vessels could hardly procure a sufficient quantity of herring for bait. The fall run of herring was also very poor. About 5,000 barrels were caught in all at this station. Some of this season's catch was frozen to be exported to foreign countries during the winter and many barrels were used in the cod and lobster fisheries for bait purposes.

Halibut and Shad fishing has been very poor the past season. Halibut struck on the grounds the week of July 24, but not many were taken as bait was very scarce. Very few of either one of these branches of the fisheries were caught by the fishermen during the season.

Lobster fishing was reported very good since the season opened up and about 1,000 boxes were canned to the 13th, with very good fishing being also reported on the outside shore to the 16th. 200 cases were canned inshore the same week. Lobstering was good to the 22nd, with factories canning from 50 to 100 cases which would be an average of about 60 cases per factory to date. The fishery varied from good to fair in June to the 26th, when it was stated that the factories on the outside shore did very well during the past week, canning there more lobsters to date than the corresponding period of last year. Good lobster fishing was reported July 3, with some factories putting up 100 cases. Much damage was rendered to lobster gear by recent storms on the coast, quite a number of the fishermen losing many of their traps. To the close of the season the fishing was good and about 1,500 lobsters were averaged per day, by the fishermen along the Shippegan coast. There was an average of 375 cases of lobsters canned per factory among the 27 canneries in operation along the coast.

Mackerel fishing has been fair all through the season. An average of 50 mackerel per day was taken when the fish were going on the coast. The catch was frozen to be shipped during the winter.

Salmon.—The salmon fishery has been fairly good this season. There was a general catch of about 20 salmon caught daily which frozen, will find a sale this winter in the American market.

Clam fishing has been very good throughout the season. An average of 300 barrels a week were canned and used for bait during the summer months.

Dogfish.—Many complaints have been received from the fishermen stating that dogfish have been the cause of the scarcity of cod and other fish in these waters, but towards the end of the season, dogfish as well as cod were being caught, as the government established at this station a dogfish reducer, for the benefit of the fishermen,

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who can now employ themselves to good advantage financially, when there is a scarcity of the staple fish on our coast. There is also an association formed at this station to erect a bait freezer, which is expected to be in operation next spring, which will materially assist our codfishermen during the summer months, as they will then be able to procure as much bait as they need and at times when it is most required.

QUEBEC.

PASPEBIAC, BONAVENTURE COUNTY.

Reporter, Miss Ada Beck.

Caplin were very plentiful on this coast this season. They were in an abundance during June and July, when great quantities were taken by the farmers, using the same for fertilizing purposes, which is considered a very good kind. Some are pickled, then dried being a very palatable fish and a good appetizer.

Cod struck in at this station early and abundant and remained so during the latter part of May, June and July. The fishery slackened gradually during August and September, but cod re-appeared abundantly in the month of October. Codfishing was reported not very good this season, owing to the scarcity of bait, but whenever the latter was obtainable good hauls of fish were made. The fall catch proved advantageous financially to the fishermen, \$3 per hundred pounds being paid for pickled green codfish.

Herring were the first fish to strike in on our coast appearing on April 28, in large quantities. Fair catches were taken all through the month of May, but during June and July there was a scarcity of herring. A few fair catches were taken in August and the early part of September, herring became very plentiful, and good stops were made from the 19th to 26th, after which none were noticed to the close of the season.

Lobsters were reported scarce along this coast to the middle of May, when a fair supply was taken the 16th and 17th, afterwards varying in catches from good to poor to the end of the season.

Salmon were very scarce all through the month of May, but in June salmon were reported were good, continuing the same until July, when the catch gradually decreased.

Squid.—This fish has been very scarce this season, only a few squid being caught in the month of August. During the scarcity of herring bait, fishermen dig clams which are in great quantities on the marshy places on this shore. They are a poor substitute, however, to other kinds of bait.

During the season a freezer for the storage of bait has been built in this locality. In May, the LeBoutillier Bros. Company took the matter in hand, and the structure was completed by September, but rather too late for this season's operations. Next season, this station will be in a position to furnish frozen herring bait to all our fishermen, as well as others who may call in at this port in search of the same.

NEWPORT POINT, COUNTY GASPÉ, QUE.

Reporter, Mrs. M. Meunier.

Caplin were reported in May on the 27th and 30th, and fair on the 29th.

Cod.—Owing to moving ice on the coast, boats were unable to start fishing before May 18, when a few cod were taken on the Banks. One half draft was the catch on the 24th, and cod in fair quantities were on the Banks the 31st. Cod struck in plentiful on the Banks on June 2 and to the 22nd, the fishing became very good and many of the vessels did fairly well. On the 17th, bankers arriving reported from 15 to 20

drafts. The inshore fisheries during the month varied from very good to fair. The July catch both inshore and on the grounds was on an average fair, after which cod became scarce on the outer grounds to August 16, which remained the same to the 26th. Fair catches were taken inshore on the 8th, 9th, 10th and 11th. Good cod fishing was reported inshore on September 2, and for the balance of the season the catch was on an average fair. Total catch for the season is estimated to show 4,000 quintals.

Herring were first reported on May 3, and for a few days very good catches were taken. Herring appeared plenty on May 12th and to the end of the month, from good to fair stops were made. An occasional fair catch was reported in June between the 9th and 24th, and very little was done in July, bait being reported very scarce. During September and October, fair but irregular quantities were taken. It is reported that 2,000 barrels of herring were taken at this station the past season.

Lobsters were reported very good in May on the 3rd, from which date to the 29th, fair quantities were on the coast, excepting the 15th and 22nd, when good fishing was reported. The only fair report received after to the close of the season was on June 17, and it is stated that 700 boxes were packed at this station the past season.

Salmon fishing was reported fair in June on the 8th and 22nd, and in July, the 4th and 11th. Light quantities of salmon were on the coast June 20, 21, and 24.

Squid were first taken July 12. In August on the 23rd and 26th, fair fishing was reported, with very good quantities being caught the 24th.

PERCE, QUE.

Reporter, Mr. E. G. Tuzo.

Cod.—The weather during the early part of May was very stormy and very little fishing was done to the 31st, when boats engaged in the codfishery reported one draft and on June 2, the crafts were averaging the same quantity. Cod were on the coast to June 30, in quantities varying from good to fair and cod fair was reported to July 14. On the 29th, boats had six drafts and during August and September fair quantities of cod were going, but bait was very scarce and few hauls were made. It may be said the codfishery to September 15, was very small partly due to the scarcity of herring bait and unsettled weather. From the 15th onward, to the close of the season there was a better appearance of bait and good signs of fish on the coast. Many of the fishermen, however, had gone to the lumber camps for employment, but those that remained and continued to prosecute the codfishery did well.

Herring in fair quantities were reported in May from the 2nd to 16th, and light the last week of the month. In June and July, herring were on our shores in fair quantities, but were reported too small to mesh in the nets. It was stated that the quantity taken to August was not sufficient to meet the demands for bait. Good appearances of bait were noticed in September, but herring were reported of a small run. I shall repeat my suggestion of previous years that a bait freezer is badly—very badly—needed at this station.

Lobsters were reported fair on May 2 and 3, with catches light after owing to bad weather which impeded fishing. To the close of the season, lobsters were reported scarce.

Squid were fairly plenty on our coast at intervals during the months of August, September and October; then disappeared suddenly. This bait-fish for the past few years has been very uncertain in our waters.

Dogfish did not give the fishermen much trouble the past season. At the time they usually strike in to do their ravenous work we had unsettled weather, consequently the boats were not out.

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PT. ST. PETER, QUE.

Reporter, Mrs. M. J. Bond.

Cod were not reported during the month of May, but on June 2 one boat reported a catch of one draft of fish for the first. Light fares were taken for about one week, when fairly good quantities of cod were reported to the 23rd. On the 26th, the bank fishing was reported very good with the fishermen doing well and reporting 75 drafts of cod. Cod appeared very plentiful July 1, with catches varying from this condition to fair for the remainder of the month. It was reported July 1 that the bankers were averaging 30 drafts of cod in three days' operations. Very good codfishing was going in August on the 4th and 5th, and poor after, owing to the arrival on the coast of dog-fish to the 9th, when daily reports were fair to the 23rd. High winds prevented fishing to September 7, and cod again came in very large numbers on the coast the 8th and 9th, and fair after to the 29th; best boat reported on the 23rd, 20 drafts. In October to the close of the bureau (October 15), the catch was on an average fair. Cod were reported later at this station in good quantities to November 11. Three thousand drafts were reported taken this season.

Herring fishing opened up fair to May 1, and to the 31st the fishing varied from fair to poor, strong winds preventing the setting of nets to an advantage. Herring fishing in June was fair, and from fair to poor again during July when best boats drifting reported three barrels. Fair catches were taken in August on the 4th, 5th, 16th and 17th, with good fishing in September on the 8th and 9th, and fair on the 11th, 12th, 15th and 25th. Unfavourable weather during this month impeded very much the herring fishery. In October herring fishing was fair, and on to November 11 herring were reported on the coast in good quantities. The total catch is estimated at 100 barrels.

Lobster fishing when first reported May 1 was fair, with diminishing catches to the last of the month on account of high winds. Good fishing was reported on June 2, with fair reports at intervals during the month. With very good catches were made July 1, and the season's catch is reported at 7,500 pounds.

Squid struck the coast in August in fair quantities, remaining the same to the 23rd. Good supplies were on the 29th. Squid fishing in October was reported fair. During the season squid were on the coast boats averaged six barrels each.

Launce fishing was good in June on the 1st, 11th and 21st, with fair reports on the 5th, 14th and 18th. About 30 barrels of launce were taken this season.

Clams.—Five barrels were taken and used for bait when there was a scarcity of herring on the shores.

MAGDALEN ISLANDS, QUE.

Reporter, Mr. J. A. Lebourdais.

Cod were late in coming on the coast this season, and to May 23 no appearance of cod was observed anywhere around the islands. There was no change in the codfishery the following week, but the fishermen entertained hopes of an early arrival. Cod gave the coast a 'weak call' the first week in June, and on the 8th codfishing was very good on the southwest part of the islands, while in other sections the catches varied from fair to poor to the 20th. The banker *Monica A. Thomas* arrived in port on the 6th with 150 quintals cod. Fairly good quantities of cod were on the coast in July, but owing to a scarcity of bait light catches only were made. A few fair hauls of fish were obtained in August on the 9th and 10th, and at Etang du Nord the latter part of the month very good fishing was reported. Cod were still in fair supply to September 11, when fairly good reports came from the western section of the islands. On the 18th, better prospects for this fall's codfishing were apparent, and on the 26th cod struck in fairly abundant. Weather October 2 was altogether unfavourable for the fishermen who were prosecuting the codfishery, and when the occasion admitted the fishermen

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to visit the grounds only a small quantity of cod was taken. The general opinion of the codfishery is that fair quantities were taken this season all over the islands, but a scarcity of bait on many occasions when cod were on the coast prevented successful fishing.

Herring.—Fair signs of herring were noticed the beginning of May, and by the 3rd the bay was clear of ice, when herring were welcomed freely in the traps which were then set. Herring abundant was reported on the 23rd, and a good many vessels called in for bait, particularly in the Pleasant bay district, where good sales were obtained. Herring were still in large quantities at all portions of the islands the latter part of May, with large demand for the same. The run of herring became poor early in June in Pleasant bay, but at Grand Etang the herring fishery continued fair to the 20th of the month, when the 25 herring traps that were set were brought ashore. A larger fleet than usual this season baited at the islands, Pleasant bay their rendezvous.

Lobsters.—On May 3, when large quantities of floating ice that were on the coast moved off shore, saw the setting of quite a quantity of lobster gear which, however, was not attended with satisfactory results. Fair fishing was reported the middle of May, and on the 23rd the fishery showed better prospects and was called good. Very good catches in some localities were made the last week in May and the same conditions prevailed the early part of June in the eastern section of the islands, with fair reports from other places. Boats operating the western part of the island June 12 were doing one-third better than the corresponding period of last year, and the lobster fishermen at Etang du Nord were meeting with good success. Lobsters becoming scarce by report of the 26th, many of the factories were closing down for the season. On July 4 it was stated, owing to the strong gale the past week, nothing was done at all in any branches of the fisheries. A large quantity of gear was also broken by the heavy south-easterly winds which almost brought the lobster fishing to a close, nearly all the factories having shut down. The month of September was granted the lobster fishermen as an extension of time, during which period a few fair catches were taken in some localities, as the weather was occasionally very unfavourable. Those engaged in the lobster industry at Etang du Nord, Grand Entry and Byron island were reported as having done well throughout the season.

Mackerel of a large size were first reported when caught in nets June 18, and to the 26th net fishing in Pleasant bay was a complete failure. Only a few mackerel were taken with the hook the middle of July, and the fishermen were going to the grounds for this purpose. Mackerel struck in fairly abundant the latter part of July for a few days, and the prospects were very good for this fishery. On account of blowy weather the week of August 7, not much fishing was done excepting a couple of days when boats that were operating this fishery made fair catches at Etang du Nord and at Grosse Isle. The following week a large school appeared at Etang du Nord, where on the 22nd good stops were made. Small catches on this date were taken all over the islands, and again at Etang du Nord, which appeared the favourite resort this season of mackerel, several large hauls were reported early in September. Twenty-five thousand mackerel were hooked on September 9, in the same locality where they were schooling, and prospects were reported still favourable. Many good catches were taken at Grosse island the middle of September, and the mackerel fishery was reported about over around these islands on October 2, as only a small quantity was being obtained. Mackerel has been an exceptional catch at Etang du Nord this season. Over 3,000 barrels were taken there. In other parts of the islands a failure has been reported.

SEVEN ISLANDS, SAGUENAY COUNTY, QUE.

Reporter, Mr. P. E. Vignault.

Caplin were not reported in this division the past season.

Codfishing was very poor the greater part of the season, some good catches being taken between June 15 and the end of July. A few cod were going during August and

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September, but the weather was very rough. The catch of cod this season is about two-thirds of last year's yield.

Herring.—Spring herring were plenty the last two weeks of May, and during their stay on the coast quite a quantity was taken in the nets.

Launce were reported in very large quantities in this division from June 23, continuing the same during July and August, with good catches September 10.

Mackerel.—None were reported at this station this season.

Salmon appeared about May 20, in small quantities. The best catches were reported during the first days of June. Salmon fishing this season outside the rivers has been better than last year, but the fishery in the rivers was considered about one-half the previous season.

Located in this division during the past season was a whaling plant which has been carrying on the whale industry with a degree of success. From July 15 to October 15, 65 whales have been brought to this factory.

I have the honour to be, sir,

Your obedient servant,

A. D. MACKERROW,

Clerk in charge F. I. Bureau.

APPENDIX No. 14.

REPORT OF THE CANADIAN FISHERIES MUSEUM.

To the Department of Marine and Fisheries.

SIR,—In presenting a report upon the Government Fisheries Museum, it is hardly necessary to point out that the museum ranks amongst the most attractive public institutions of the capital, and was visited during the year 1905 by over 15,000 persons, including residents, visitors from foreign lands and all parts of the Dominion, and by schools and teaching staffs.

To give a complete list of all the specimens of natural history at present contained in the collection of the Museum would be too voluminous for insertion in the Fisheries Report. The collection has been brought together from many parts of the Dominion, and artistic cases are being specially prepared for its reception. Many of the specimens are recent acquisitions, and much remains to be done in a thorough examination of those, as well as of others, long in the museum, and which are lacking in requisite data. Long ago due care was not always taken in recording where and when the specimens were found, and as some had faded in the alcohol, which was the preservative then in use, but from which they have been removed and placed in formalin, the identification of species is sometimes difficult. This applies mostly to the fishes, and it is my intention to examine anew every specimen of fish in the museum, and to rectify, as far as possible any shortcomings of the past. Possibly the identification of a few species, included in the list (see p. 364) should be regarded as provisional, although there is little of any serious defect, and the list is fairly representative of the fishes in formalin which the collection contains.

In last year's report mention was made of the Vertebrates collected during the expedition of the ss. *Neptune*. 1903-04, whilst the Invertebrates, then collected, were only alluded to. The names of such species of the latter as have been identified are now given, and will be found, marked with an asterisk, under the classes or subkingdoms to which they respectively belong.

The nomenclature adopted for the Invertebrates is mainly that employed by Dr. Whiteaves in his 'Catalogue of the Marine Invertebrata of Eastern Canada,' in reverse order.

It is hoped to follow this report with a detailed catalogue to serve the purpose of a guide to the museum.

The following list of specimens, beginning with the mammals, is arranged according to zoological sequence.

Mammals.

The collection contains specimens of the Common Porpoise (*Phocaena communis*) from the Gulf of St. Lawrence, a tusk of the Narwhal (*Monodon monoceros*) from the Hudson Bay, the scapulae of a Whitewhale or Beluga (*Delphinapterus leucas*) from near Digby, N. S., of the Fisher (*Mustela pennanti*) from Ontario, of the Mink (*Putorius vison*), of the Otter (*Lutra canadensis*), of the Beaver (*Castor canadensis*), and of the Musk Rat (*Fiber zibethicus*) from Ontario. A specimen of the last mentioned species approaches an albino in colour, and was obtained last spring at the Rideau river in the vicinity of Ottawa. There are also specimens of some terrestrial mammals, chief among which, ornamenting the walls, are mounted heads of the Moose (*Alce alces*), of the Wapiti (*Cervus canadensis*), of the Red Deer (*Cervus virginianus*), and of the Woodland Caribou (*Rangifer tarandus*).

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Birds.

A central case is devoted to an exhibition of mounted aquatic birds, of which may be mentioned the Red-necked Grebe (*Colymbus holboellii*), the Horned Grebe (*Colymbus auritus*), the Dab-chick (*Podilymbus podiceps*), the Great Northern Diver (*Urinator imber*), the Red Throated Diver (*Urinator lumme*), the Puffin (*Fratercula arctica*), the Black Guillemot (*Cepphus grylle*), the Murre (*Uria troile*), the Razor-billed Auk (*Alca torda*), the Dovekie (*Alle alle*), the Ivory Gull (*Gavia alba*), the Great Black-backed Gull (*Larus marinus*), the American Herring Gull (*Larus argentatus smithsonianus*), Bonaparte's Gull (*Larus philadelphia*), the Gannet (*Sula bassana*), the Common Cormorant (*Phalacrocorax carbo*), the Double-crested Cormorant (*Phalacrocorax dilophus*), the Merganser (*Merganser americanus*), the Green-winged Teal (*Anas carolinensis*), the Blue-winged Teal (*Anas discors*), the Pin-tail Duck (*Dafila acuta*), the Golden-eye (*Glaucionetta clangula americana*), the Buffle-head (*Charitonetta albeola*), the Long-tailed Duck (*Clangula hyemalis*), the Harlequin Duck (*Histrionicus histrionicus*), the American Eider (*Somateria dresseri*), the American Black Scoter (*Oidemia americana*), the Surf Scoter (*Oidemia perspicillata*), the Ruddy Duck (*Erismatura rubida*), the American Bittern (*Botaurus lentiginosus*), the Great Blue Heron (*Ardea herodias*), the Great White Egret (*Ardea egretta*), the Little White Egret (*Ardea candidissima*), the Green Heron (*Ardea virescens*), the Virginia Rail (*Rallus virginianus*), the Florida Gallinule (*Gallinula galeata*), the American Coot (*Fulica americana*), the Red Phalarope (*Crymophilus fulicarius*), the Northern Phalarope (*Phalaropus lobatus*), the American Woodcock (*Philohela minor*), the Marbled Godwit (*Limosa fedoa*), the American Black-tailed Godwit (*Limosa hemastica*), the Yellow Shanks (*Totanus melanoleucus*), the Esquimaux Curlew (*Numenius borealis*), the Black-bellied Plover (*Charadrius squatarola*), the Golden Plover (*Charadrius dominicus*), the Bald-headed Eagle (*Haliaetus leucocephalus*), the Osprey (*Pandion haliaetus*), the Belted Kingfisher (*Ceryle alcyon*), and various Snipe and Sandpipers.

Worthy of mention, and interesting as a coastwise insectorial, is a prepared skin, with the nest and a set of four eggs of the Ipswich Sparrow (*Ammodramus princeps*) from Sable Island, Nova Scotia.

A series of the eggs of the Murre (*Uria troile*) mostly from the Bird Rocks off the Magdalen Islands, is laid out in a flat table case, and manifests the very varied coloration of the eggs of that species of bird.

Reptiles.

This class is represented by specimens of the Snapping Turtle (*Chelydra serpentina*), of Blanding's Tortoise (*Emys blandingii*), of the Mud Turtle (*Chrysemys picta*), from various parts of Ontario; and a few serpents, of which may be mentioned a specimen of the Black Snake (*Zamenis constrictor*) from Daly's lake, Gatineau district, P.Q. Foreign to Canada are two small specimens of Alligator (*Alligator mississippiensis*).

Batrachians.

Various frogs and salamanders represent this class, of which may be mentioned specimens of the Leopard Frog (*Rana virescens*), of the Wood Frog (*Rana sylvatica*), of the Green Frog (*Rana clamata*), and of the American Toad (*Bufo americanus*), from the vicinity of Ottawa; of the Bull Frog (*Rana catesbiana*), from Wakefield, P.Q., and Belleville, Ont.; of the Common Tree Toad (*Hyla versicolor*), from Brennan's hill, Gatineau district, P.Q.; and of Menobranchus (*Necturus maculatus*) from the Detroit and Ottawa rivers. Specimens of the last mentioned species sometimes pass through the water pipes, dead or alive, of the Ottawa fish hatchery.

*Fishes.*¹

The fishes are given in more detail than are the species of other classes, and the following list in the main represents the specimens and species preserved in formalin, but the collection also contains others, mostly recent acquisitions, such as certain Cottoids, Salmonoids and Gadoids, from the Arctics,² which will not admit at present of being published as they await exact determination:—

California flounder (*Platichthys stellatus*, Pallas). Specimens from British Columbia.

Halibut (*Hippoglossus hippoglossus*, L.). Specimens from Gulf of St. Lawrence and vicinity of Digby, N.S.

Cusk (*Brosmius brosme*, Müller). Specimens from Atlantic coast of Canada.

Burbot or Ling (*Lota maculosa*, Le Sueur). Specimens from Ragged lake, Algonquin Park, Ont.; Swan river, near Vernon, B.C.; Rock lake, Haliburton county, Ont.; Lake des Chene, Ottawa River; and Healy's Falls, Northumberland county, Ont.

Haddock (*Melanogrammus æglifinus*, L.) Specimen from Gulf of St. Lawrence.

Common Cod fish (*Gadus callarius*, L.) Specimens from Gulf of St. Lawrence and vicinity of Digby, N.S.

Pollock or Coal fish (*Pollachius virens*, L.) Several specimens from vicinity of Digby, N.S.

Hake (*Merluccius bilinearis*, Mitchill). Specimen from vicinity of Digby, N.S.

Remora or Sucking fish (*Remora remora*, L.) Specimen from Atlantic coast of Canada.

Vahl's Lycodes (*Lycodes vahli*, Reinhardt)? Specimen from Ungava bay.

Thick-lipped Eel-pout (*Zoarces anguillaris*, Peck). Specimen from Gulf of St. Lawrence.

Wolf fish (*Anarhichas lupus*, L.) Specimen from Gulf of St. Lawrence.

Ghost fish (*Cryptacanthodes maculatus*, Storer). Specimen from Atlantic coast of Canada.

Montague's Sucking fish (*Neoliparis montagui*, Donovan)? Specimen from Atlantic coast of Canada.

Alligator fish (*Aspidophoroides monopterygius*, Bloch). Specimen from Ungava bay.

Sea raven (*Hemitripterus americanus*, Gmelin). Two specimens (1 very small) from Atlantic coast of Canada.

Three-lobed blepsias (*Blepsias cirrhosus*, Pallas). Specimen from coast of British Columbia.

Common sculpin (*Acanthocottus octodecimspinosus*, Mitchill). Specimen from Gulf of St. Lawrence.

Grubby (*Acanthocottus æneus*, Mitchill). Specimen from Atlantic coast of Canada.

Cultus cod (*Ophiodon elongatus*, Girard). Specimen from Victoria, Vancouver island.

¹ The nomenclature used in the list of Fishes is mostly that of Dr. Jordan and Dr. Evermann in their 'Fishes of North and Middle America,' in reverse order.

² Expedition ss. *Neptune*, 1903-04.

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Black-banded rock fish (*Sebastes nigrocinctus*, Ayres). Specimen from British Columbia.

Cunner (*Tautoglabrus adspersus*, Walbaum). A few specimens from Gulf of St. Lawrence.

White perch (*Morone americana*, Gmelin). Specimens from Atlantic coast of Canada.

Striped bass (*Roccus lineatus*, Bloch). Specimens from Miramichi river.

Yellow perch (*Perca flavescens*, Mitchill). Specimens from Ottawa river; Detroit river, near Sandwich, Ont.; from mouth of stream leading out of Porcupine lake into Ragged lake, Algonquin National Park, Ont.; Port Dover, Ont.; Healy's Falls, Northumberland Co., Ont.; Lac des Isles, Gatineau district, P.Q.; and Port Dover creek, Lake Erie.

Pike perch or Dore (*Stizostedion vitreum*, Mitchill). Specimens from Gilmour's Mills, P.Q., near Ottawa; and from Detroit river, near Sandwich, Ont.

Large-mouthed black bass (*Micropterus salmoides*, Lacépède). Specimens from Lake Scugog, and Healy's Falls, Northumberland Co., Ont.

Small-mouthed black bass (*Micropterus dolomieu*, Lacépède). Specimens from Rideau lake, Ont.; Christy's lake, near Perth, Ont.; Belleville, Ont.; Detroit river, near Sandwich, Ont.; Sharbot lake, Ont.; and Lac des Isles, Gatineau district, P.Q.

Common sun-fish (*Eupomotis gibbosus*, L.). Several specimens from Kingston Mills, Ont.

Blue sunfish or Moon-fish (*Lepomis pallidus*, Mitchill). Specimens from Kingston Mills, Ont.

Rock Bass (*Ambloplites rupestris*, Rafinesque). Specimens from Detroit river, near Sandwich, Ont.; Bay of Quinté, Ont.; Sharbot lake, Ont.; from near Hog's Back, vicinity of Ottawa; Port Dover creek, Lake Erie; and Kingston Mills, Ont.

Calico or Grass bass (*Pomoxis sparoides*, Lacépède). Specimens from Rideau canal, near Ottawa; Lewis' dam, vicinity of Ottawa; Gilmour's Mills, P.Q., near Ottawa; and Rideau river, Ont.

Dollar fish (*Rhombus triacanthus*, Peck). Specimens from the Atlantic coast of Canada.

Oceanic bonito (*Gymnosarda pelamis*, L.). Specimens from Atlantic coast of Canada.

Common mackerel (*Scomber scombrus*, L.) Specimens from Gulf of St. Lawrence and Prince Edward Island.

Sand lance (*Ammodytes americanus*, DeKay). Numerous specimens from Gulf of St. Lawrence.

Silverside (*Menidia notata*, Mitchill). Numerous specimens from Atlantic coast of Canada.

Sand roller or Trout perch (*Percopsis guttatus*, Agassiz). Specimens from Tweed and Belleville, Moira river, Ont.

Great pipe fish (*Siphostoma californiense*, Storer). Specimens from the coast of British Columbia.

Stickleback (*Apeltes quadracus*, Mitchill). Specimens from Quaco, St. John Co., N.B.

Common eastern stickleback (*Gasterosteus bispinosus*, Walbaum). Specimen from estuary, Magaguadavic river, St. George, N.B.

Nine-spined stickleback (*Pygosteus pungitius*, L.). Specimen from Lac des Isles, Gatineau district, P.Q.

Brook stickleback (*Eucalia inconstans*, Kirtland). Specimen from Stittsville, Ont.

Saury (*Scomberesox saurus*, Walbaum). Specimen from Atlantic coast of Canada.

Killifish (*Fundulus diaphanus*, Le Sueur). Specimens from St. John river, N.B.

Common killifish (*Fundulus heteroclitus*, L.) Numerous specimens from Bay of Fundy, N.B.

Common pike (*Esox lucius*, L.). Specimens from Sharbot lake, Ont.; Detroit river, near Sandwich, Ont.; Gilmour's mills, Ottawa river, P.Q.; and Lac des Isles, Gatineau district, P.Q.

Green pike (*Esox reticulatus*, Le Sueur). Specimen from Brome lake, P.Q.

American smelt or Ice fish (*Osmerus mordax*, Mitchill). Specimens from vicinity of Digby, N.S.; and Lac des Isles, Gatineau district, P.Q., (land-locked variety).

Cape'in (*Mallotus villosus*, Müller). Specimens from Gulf of St. Lawrence.

Speckled or Brook trout (*Salvelinus fontinalis*, Mitchill). Specimens from head of Muskoka river, Algonquin park, Ont.; Pickanock, near Gracefield, P.Q.; Lake Pembina, Lievre river, P.Q.; Lake St. Germain, P.Q.; Gatineau district, near Ottawa; Green lake, P.Q.; and St. John river, N.B.

Great lake trout (*Cristivomer namaycush*, Walbaum). Specimens from Rock lake, Haliburton county, Ont., (result of the planting of the fish fry); Smoke lake, Algonquin park, Ont.; Lake Huron; Rideau lake, Ont.; and Cranberry lake, Algonquin park, Ont.

Rainbow trout (*Salmo irideus*, Gibbons). Specimen from Bedford, N.S., (an imported species from the Pacific slope).

Steelhead (*Salmo gairdneri*, Richardson). Specimen from Fraser river, B.C.

Atlantic salmon (*Salmo salar*, L.). Specimens from Restigouche river; Tadoussac, P.Q.; and Manitoulin island.

Ouaniche (*Salmo salar ouaniche*, McCarthy). Numerous specimens from Lake St. John, P.Q.

Common white fish (*Coregonus clupeiformis*, Mitchill). Specimens from Detroit river, near Sandwich, Ont.

Cisco or Lake herring (*Argyrosomus arctedi*, Le Sueur). Specimens from Detroit river, near Sandwich, Ont.

American shad (*Alosa sapidissima*, Wilson). Specimens from Gulf of St. Lawrence.

Gaspereau or Alewife (*Pomolobus pseudoharengus*, Wilson). Specimen from Gulf of St. Lawrence.

Common herring (*Clupea harengus*, L.). Specimens from vicinity of Digby, N.S., and Atlantic coast of Canada.

Moon-eye or Toothed herring (*Hiodon tergisus*, Le Sueur). Specimens from Detroit river, near Sandwich, Ont.

American eel (*Anguilla chrysypa*, Rafinesque). Specimens from vicinity of Ottawa, and Lake Ontario.

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Minnow (*Couesius plumbeus*, Agassiz). Numerous specimens from St. John county, N.B.

Minnow (*Leuciscus neogaus*, Cope). Numerous specimens from St. John county, N.B.

Spawn eater (*Notropis hudsonius*, De Witt Clinton). A number of specimens from near Belleville, Ont.

Red-bellied dace (*Chrosomus erythrogaster*, Rafinesque). Specimens from Clear lake, Lepreaux, Charlotte county, N.B.

Common red horse (*Moxostoma aureolum*, Le Sueur). Specimens from Detroit river, near Sandwich, Ont.

White sucker (*Catostomus commersonii*, Lacépède). Specimens from Healy's Falls, Northumberland county, Ont.; and from vicinity of Ottawa.

Stone cat (*Noturus flavus*, Rafinesque). Specimen from Detroit river, near Sandwich, Ont.

Horned pout or Common bullhead (*Ameiurus nebulosus*, Le Sueur). Specimens from Healy's Falls, Northumberland county, Ont.; Rideau canal, Ont.; Lake Ontario; and Gilmour's mills, P.Q., near Ottawa.

Dog fish (*Amia calva*, L.). Numerous specimens from Belleville, Bay of Quinté, Ont.; and two specimens from Ottawa river.

Common gar pike (*Lepidosteus osseus*, L.). Numerous specimens from Belleville, Bay of Quinté, Ont.; and two small specimens which lived for a time in the aquarium of the Ottawa Fish Hatchery.

Rock sturgeon or Lake Sturgeon (*Acipenser rubicundus*, Le Sueur). Specimens from St. Lawrence river, Lancaster, Ont.; Detroit river, near Sandwich, Ont.; and a specimen which lived for 10 or 12 years in the aquarium of the Ottawa Fish Hatchery.

Chimæra or Rat-fish (*Hydrolagus collieri*, Lay and Bennett). Specimen from near Gervis inlet, Straits of Georgia, B.C.

Starry ray (*Raja radiata*, Donovan). Specimen and egg capsule from Atlantic coast of Canada.

Picked dogfish (*Squalus acanthias*, L.). Specimen from vicinity of Digby, N.S., and two foetal specimens.

Silvery lamprey (*Ichthyomyzon concolor*, Kirtland). Specimens from Detroit and Ottawa rivers.

Besides the above mentioned the museum contains a collection of mounted fishes, most of which are old, and it is hoped to substitute them with new ones. A recent acquisition is a large mounted maskinonge (*Esox masquinongy*) from near Britannia, Ont.; and a specimen of the paddle fish (*Polyodon spathula*) from near Sarnia, Ont.—long in the museum—is valuable because it is one of only a few specimens of that species which have been found in Canadian waters in recent times. There are also mounted specimens of the porbeagle shark (*Lamna cornubica*), of the tunny (*Thynnus thynnus*), of the halibut (*Hippoglossus hippoglossus*), besides salmonoids from the Atlantic and Pacific slopes, various cyprinoids, percoids, gadoids, ganoids, &c., a dried specimen of the sea horse (*Hippocampus hudsonius*) from the Atlantic coast of Canada; bones of the angler or fishing frog (*Lophius piscatorius*) displayed in a flat table case, from Digby, N.S.; and otoliths of the fresh-water drum (*Aplodinotus grunniens*), from the Detroit and Ottawa rivers. A small specimen of an exotic

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dipnoid, with its capsule of mud (*Protopterus annectens*) from Africa, may also be mentioned.³

Ascidians or Tunicates.

The museum contains a few specimens of ascidians of the following species:—*Boltenia bolteni* and *Halocynthia pyriformis* from Metis, P.Q., and *Peloniaia arenifera* from Richibucto, Straits of Northumberland. Two specimens of *Boltenia* sp.,* one from Port Burwell, the other from Fullerton, were dredged during the expedition of the ss. *Neptune*, 1903-4.

Crustaceans.

The decapods embrace specimens of *Cancer amæus* from the Bay of Fundy and Bay Chaleur, of *Chionæcetus opillia* from the Magdalen islands, of *Hyas*⁴ *araneus* from Paroquet, P.Q., and the Magdalen islands, of *Panopeus*, sp. and *Epialtus productus* from Vancouver island, of *Eupagurus*, sp.* from Fullerton, of *Homarus americanus* from Nova Scotia, of *Crangon vulgaris* and *Hippolyte fabricii* from Metis, and of *Sabinea septemcarinata* and *Spirontocaris spinus* from Bradell Bank off Prince Edward Island. There is also a very large cray-fish (*Cambarus*) from near Kingston, Ont.

Chief among isopods are specimens of the salve bug (*Ega psora*) from Grand Manan, N.B., Churchill, and Port Burwell.* The last mentioned were found on cod-fish.

Specimens of barnacles of the genus *Balanus* are from Pictou, N.S., Bay Chaleur, Gulf of St. Lawrence, Port Burwell,* and Vancouver island. There are also a few specimens of barnacles of the species *Lepas fascicularis* from the Pacific coast.

Certain Arctic forms of crustaceans, collected during the expedition of the ss. *Neptune*, 1903-4, have been courteously identified by Prof. G. O. Sars, of Christiania, Norway, the expert carcinologist, viz.: *Spirontocaris gaimardi**, *Spirontocaris aculeata**, *Anonyx nugax**, *Pseudolibrotus littoralis**, *Ischyrocerus angvipes**, and the following fresh water forms: *Branchinecta paludosa**, *Diaptomus castor**, *Daphnia pulex**, and *Dactylopus stromia**,* from Fullerton; *Nectocrangon lar**,* and *Ampelisca eschrichti**,* from Port Burwell; *Euthemisto libellula** from North Summerset; and *Gammarus locusta** from Wakeham bay, Ungava.

Mollusks.

Instances of Gastropod shells are specimens of *Tritonofusus kroyeri* from Metis, of *Sipho pygmæus* from the Bay of Fundy, of *Sipho stimpsoni* and *Neptunea decemcostata* from Grand Manan, N.B., of *Buccinum tenue* from Metis and Port Burwell,* of *Buccinum undatum* from Metis, of *Nassa obsoleta* from Pointe du Chêne, N.B., and Nova Scotia, of *Purpura lapillus* from Metis and Magdalen islands, of *Cerostoma foliatum* from Queen Charlotte islands, of *Trophon clathratus* from Metis, of *Priene oregonensis* from British Columbia, of *Aporrhais occidentalis* from Ungava bay, of *Trichotropis borealis* from Metis and Port Burwell,* of *Turritella reticulata* from Gaspé, of *Turritella*, sp.* from Port Burwell, of *Lucina vincta* from Bay of Fundy, of *Littorina littorea* from Grand Manan, N.B., Nova Scotia and Prince Edward Island, of *Littorina palliata*, from Nova Scotia and Hudson bay,* of *Littorina rudis* from Nova Scotia, of *Crepidula fornicata* from Pictou, N.S., of *Velutina undata* from Murray bay, of *Velutina lavigata* from Gaspé and Port Burwell,* of *Natica*

³ The dipnoids have this peculiarity among fishes: When the waters which they inhabit are dried up the function of respiring by the gills is suspended, and they then breath atmospheric air by a rudimentary lung. *Protopterus annectens* during the dry season is protected in a capsule of mud, with an opening through which it is enabled to breath.

⁴ A few specimens of *Hyas*, perhaps *H. coarctatus**, from Fullerton, were obtained during the expedition of the ss. *Neptune*.

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clausa from Metis, of *Lunatia heros* from Grand Manan, N.B., Pictou, N.S., and Bay Chaleur, of *Lunatia groenlandica* from Gaspé, of *Pachypoma gibberosum* from Vancouver island, of *Margarita cinerea* from Ungava bay, Cape Gaspé head, Metis, Fullerton,* and Port Burwell,* of *Solariella varicosa* from Metis, of *Haliotis kamischatkana* from Queen Charlotte islands, of *Puncturella*, sp.* from Port Burwell, of *Acmæa testudinalis* from Grand Manan, Tadousac, P.Q., and Fullerton,* of *Amicula vestita* from Rivière du Loup, P.Q., of *Tonicella marmorea* from Ungava bay and Fullerton*—the last mentioned being valves from the gizzards of eider ducks, and of *Katherina tunicata* from Vancouver island.

Instances of Lamellibranch shells are specimens of *Zirphæa crispata* from Vancouver island and Sable island, N.S., of *Cryptodaria siliqua* from Gulf of St. Lawrence of *Saxicava rugosa* from Nova Scotia, Ungava bay and Byam island,* of *Mya truncata** from Cumberland Sound and Port Burwell, of *Mya arenaria* from Gulf of St. Lawrence, Bay Chaleur and Prince Edward island—the last mentioned being tiny juvenile specimens—of *Cochlodesma leanum* from Pictou, N.S. of *Lyonsia arenosa*, and *Kennerlia glacialis* from Gaspé, of *Macoma inflata* from Murray bay, of *Macoma calcarea* from Gaspé bay, Magdalen islands and Port Burwell,* of *Macoma balthica* from Tadousac, P.Q., and Fullerton,* of *Mesodesma deauratum* from Metis, P.Q., of *Spisula polynyma* from Gaspé, P.Q., of *Spisula solidissima* from Bay of Fundy and Pictou, N.S., of *Petricola pholadiformis* from Prince Edward island, of *Liocyma fluctuosa* from Bradelle Bank off Prince Edward island, of *Cytherea convexa* from Prince Edward island and Magdalen islands, of *Venus mercenaria* from Nova Scotia, and straits of Northumberland, of *Astarte banksii* from Gulf of St. Lawrence, Hudson bay and Port Burwell,* of *Astarte compressa* from Metis and Magdalen islands, of *Astarte lactea* from Magdalen islands and Port Burwell,* of *Cyprina islandica* from Bay of Fundy, of *Serripes groenlandicus** from Port Burwell, of *Cardium ciliatum* from Bay Chaleur, Cape Gaspé Head and Port Burwell,* of *Megayoldia thraciæformis* from Gulf of St. Lawrence, of *Yoldia sapotilla* from Pictou, N.S., of *Yoldia limatula* from Gulf of St. Lawrence and Port Burwell,* of *Leda minuta* from Gaspé and Port Burwell,* of *Nucula tenuis* from Labrador, of *Crenella pectinula* from Murray bay, of *Crenella*, sp.* from Fullerton and Port Burwell, of *Modiolaria nigra* and *Modiolaria discors* from Gaspé, of *Modiolaria corrugata* from Murray bay, Cape Gaspé Head, Fullerton,* and Port Burwell,* of *Modiola demissa* from Nova Scotia and Charlottetown, P.E.I., of *Modiola modiolus* from Nova Scotia, straits of Northumberland and off Douglastown Head, P.Q., of *Mytilus edulis* from Metis, Bay Chaleur, and Wakeham bay,* of *Mytilus californianus* from Vancouver island, of *Pecten groenlandicus* from Gulf of St. Lawrence, of *Pecten magellanicus* from Gaspé bay and Douglastown Bank, P.Q., of *Pecten islandicus* from Gulf of St. Lawrence, of *Pecten caurinus* from Straits of Georgia, B.C., of *Ostrea virginica* from Prince Edward island, of *Ostrea lurida* from British Columbia, and of *Hinnites giganteus* from Vancouver island.

Among other specimens referable to mollusks are a few pteropods* from Port Burwell, Wakeham bay, and Black Tickle; an octopus from British Columbia; specimens of *Ommatostrephes illecebrosa* from the Gulf of St. Lawrence; besides the following fresh water shells from the stomach of a sturgeon, viz.: *Planorbis bicarinatus*, *Planorbis parvus*, *Planorbis campanulatus*, *Limnæa catascopium*, *Valvata sincera*, *Valvata tricarinata*, *Amnicola porata*, *Sphærium striatinum?* and *Pisidium abditum*.

Polyzoans.

Of these are fragments of *Myrionozoum subgracile* from the Gulf of St. Lawrence and Bay Chaleur, of *Cellepora cervicornis*, *Cellepora incrassata*, and *Escharea elegantula* from Orphan Bank, Gulf of St. Lawrence, and a specimen of *Flustra*, sp. from Rimouski, P.Q.

Brachiopods.

These embrace specimens of *Hemithyris psittacea* from Cape Gaspé Head, P.Q., and Ungava bay, of *Terebratalia spitzbergensis* from Murray bay, P.Q., and of *Terebratulina septentrionalis* from Bay of Fundy.

Annelids.

Specimens of the shells of *Spirorbis* from Port Burwell, Ungava, are attached to pieces of alga, and to objects in the museum from various localities; and tubes of *Cistenides*,* and a few specimens of a very small fresh water leech* are from Fullerton. Certain other Annelids collected during the expedition of the ss. *Neptune*, 1903-4, await determination.

Echinoderms.

The echinoderms are mostly represented by specimens of *Echinarachnius parma* from Gulf of St. Lawrence, Bay Chaleur, Douglastown Head, P.Q., and the Magdalen islands, of *Strongylocentrotus drobachiensis* from Bay of Fundy, Cape Gaspé Head, P.Q., Rimouski, P.Q., the Magdalen islands, Ungava bay, and North Summerset,* of *Gorgonocephalus agassizii* from Province of Quebec, of *Orphiopholis aculeata* from near Churchill, Cape Gaspé Head, and Port Burwell*, of *Ophioglypha robusta* from Gulf of St. Lawrence and Port Burwell*, of *Ophioglypha sarsii* from Kamouraska, P.Q., and Port Burwell*, of *Leptasterias groenlandicus* from Metis, P.Q., of *Asterias polaris* from Cape Gaspé Head, P.Q., Rimouski, P.Q., and Port Burwell* (tiny specimens), of *Asterias vulgaris* from Digby, N.S., Douglastown Head, P.Q., Bay Chaleur and Magdalen islands, of *Crossaster papposus* from Hudson straits, Cape Gaspé Head, and North Summerset,* of *Psolus fabricii* from Rimouski, P.Q., and Port Burwell*, of *Psolus phantapus* from Cape Gaspé Head, and of *Pentacta*, sp.* from Port Leopold, North Summerset.

Cœlenterates.

There are a few specimens of this sub-kingdom, such as *Alcyonium rubiforme* from the Gulf of St. Lawrence, *Pennatula aculeata* from near Anticosti island, and *Verrillia blakei* from Burrard's Inlet, B.C.; besides certain ctenophores* from Port Burwell, actinians* from North Summerset, and hydrozoans* from Fullerton and Black Tickle.

Sponges.

Of a few specimens of sponges in the museum may be mentioned *Chalina oculata* from the Gulf of St. Lawrence, and *Suberites compacta* from Sable Island, N.S.

Respectfully submitted.

ANDREW HALKETT,
Naturalist and Curator, Canadian Fisheries Museum.

* One small specimen, possibly a juvenile of *Psolus fabricii*, as the median podia are not at all distinct, but it resembles *Psolus phantapus* in form.

APPENDIX No. 15

THE OUTSIDE STAFF OF THE FISHERIES BRANCH.

The following are Inspectors of Fisheries in the different provinces of the Dominion :—

Name.	P. O. Address.	Extent of Jurisdiction.
Bertram, A. C.	North Sydney, N.S.	District No. 1.—Cape Breton Island.
Hockin, Robt.	Pictou, N.S.	District No. 2.—Cumberland, Colchester, Pictou, Antigonish, Guysboro', Halifax and Hants counties.
Robertson, Andrew C. .	Barrinton Pass., N.S.	District No. 3.—Lunenburg, Queen's, Shelburne, Yarmouth, Digby, Annapolis and King's counties.
Pratt, J. H., capt.	St. Andrews, N.B.	District No. 1.—The counties of Charlotte and St. John.
Chapman, Robt. A.	Moucton, N.B.	District No. 2.—Restigouche, Gloucester, Northumberland, Kent, Westmorland and Albert counties.
Harrison, H. E.	Fredericton, N.B.	District No. 3.—King's, Queen's, Sunbury, York, Carleton and Victoria counties.
Matheson, J. A.	Charlottetown	Prince Edward Island.
Wakeham, Wm., M.D. .	Gaspé Basin, Que.	Lower St. Lawrence River and Gulf.
Belliveau, A. H.	Ottawa	Province of Quebec, north of River St. Lawrence and west from and including River Saguenay, and the portion which lies west and south of the county of Bellechasse to Pontiac.
Riendeau, Jos.	Montreal.	The counties of the province of Quebec bordering on the St. Lawrence from Huntington to Three Rivers.
Hurley, J. M.	Belleville, Ont.	That portion of Ontario east of the western boundary line of the counties of Durham, Victoria and Haliburton, including Lake Scugog and the eastern boundary of Muskoka and Parry Sound districts.
Sheppard, O. B.	Toronto, Ont.	That part of the province of Ontario west of the eastern boundaries of the county of Ontario, and the districts of Muskoka and Parry Sound along the Mattawa and Ottawa rivers, and northward along the north-eastern boundary line of said province to James bay.
Duncan, A. G.	Marksville, Ont.	That portion of Ontario lying west and north of Lake Nipissing, the rivers Mattawa and Ottawa and the north-east boundary line of the province to James bay, embracing Nipissing, Algoma, Thunder bay and Rainy river districts, Lake Superior and such portions of Lake Huron and Georgian bay as lie adjacent or opposite to the part of Ontario above described.
Young, Wm. S.	Selkirk, Man.	Province of Manitoba.
Miller, E. W.	Qu'Appelle, N.W.T.	Eastern part of the North-west Territories.
Young, Harrison S.	Edmonton.	Western part of the Territories.
McKay, Horace T.	Dawson City.	Yukon district.
Sword, C. B.	N. Westminster, B.C.	Province of British Columbia.—No. 1. Southern district.
Williams, J. T.	Port Essington.	" " No. 2. Northern district.
Taylor, E. G.	Nanaimo.	" " No. 3. Vancouver Id.

OTHER DEPARTMENTAL OFFICERS.

Halket, Andrew.	Fish. Museum, Otta.	Naturalist and Curator of Fisheries Museum, at Ottawa.
MacFarlane, Peter	New Glasgow, N.S.	Officer in charge Bait cold storage.
Migneault, R. M. S.	Yamaska.	Inspector of fishways.
Mackerrow, A. D.	Halifax.	In charge Intelligence Bureau.

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LIST OF FISHERY OVERSEERS IN THE DOMINION OF CANADA.

REVISED TO DECEMBER, 1905.

NOVA SCOTIA.

Annapolis County.

Name of Overseer.	P. O. Address.	Extent of Jurisdiction.
Parks, Hamilton.....	Port George.....	Annapolis county.

Antigonish County.

McAdam, Alexander R..	Malignant cove.....	Antigonish county.
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Cape Breton County.

Forbes, A. R.	North Sydney	Cape Breton county.
Lavatte, Henry.....	Louisbourg.....	" "
McCuish, John.....	Scatarie	" "
McDonald, Joseph ..	Little Lorraine.	" "
McInnis, Michael R. .	Amagnadus pond....	" "
McLean, John	Gabarouse lake.	" "
McLean, Murdock ..	Leitches creek.	" "
Rees, C. E.	Port Morien	" "
Sullivan, Timothy. .	Little Bras d'Or....	" "

Colchester County.

Davidson, J. W.	Bass river.....	Colchester county.
Henderson, G. W. . .	Tatamagouche	"
McGregor, E. H.	Lower Stewiacke. . .	"

Cumberland County.

Angevine, Frank.....	Middleboro	Cumberland county.
Campbell, John.....	Northport	"
Reid, John D.	Pugwash	"
Thompson, Guy.....	Oxford	"

Digby County.

Bishop, H. R.	Digby.....	Municipality of Digby, Digby county.
German, Thos.	Meteghan	Municipality of Claire, Digby county.

Guysboro County.

Davis, John	Guysboro.....	Guysboro county.
Reid, David	Port Hilford.	"

Halifax County.

Gaston, Robt.....	Pope's harbour .. .	Sea coast and inland waters at Halifax county.
Kennedy, Wm.....	Hubbard's cove.....	Halifax county.
Rowlings, George. .	Musquodoboit hrbr..	Sea coast and inland waters at Halifax county.

SESSIONAL PAPER No. 22

LIST of Fishery Overseers in the Dominion of Canada, &c.—*Continued.*NOVA SCOTIA—*Continued.**Hants County.*

Name of Overseer.	P. O. Address.	Extent of Jurisdiction.
Mosher, James R.	Kempt Shore	County of Hants (west part).
McDonald, Chas.	Shubenacadie.	County of Hants.

Inverness County.

Aucoin, Wm.	Eastern Harbour ...	No. 6.—From Big Pond Lobster Factory north, including Cheticamp, Eastern Harbour, Little River, Pleasant Bay and Paulet Cove.
Chisholm, Archd. A.	S. W. Margaree.	Inverness coast from Broad Cove Chapel to Delany's Cove, also East Lake Ainslie and streams, Loch Ban, S. W. Margaree River and tributaries and Margaree River from forks of Margaree Hr.
Gillies, Peter.	S. W. Port Hood ...	No. 3.—Inverness Co. north side of Mabou Hr., including Mabou River N. of Whyccomah, also north side of Mabou mouth coal mines and waters of Lake Ainslie in interior.
Hart, Albert.	N. E. Margaree.	Coast of Inverness Co., from Delany's Cove northward including Big Pond, Eastern Hr., &c., also N. E. Margaree Riv. from Margaree Forks to Source, and all other streams to Victoria Co. line.
McIntosh, Angus.	Pleasant Bay	Coast of Inverness Co. extending from Pleasant Bay to Meat Cove (inclusive).
McLellan, Jno. B.	Kingsville	No. 2.—Inverness Co. S. side of Victoria Co., line head of Whyccomah Bay (Pt. Hasting's and Pt. Hawkesbury excepted) including River Inhabitants and branches, River Denis, Malagawatch and West Bay.
McLean, D. H.	Port Hood	No. 1.—W. division coast south of Mabou Hr., including S. W. Mabou River, Port Hood, Judique Long Pt., Pt. Hastings and Hawkesbury, to N. W. arm River Inhabitants in interior, and north side Victoria Co., from J's. McKinnons to Whyccomah Bay, and through Glencoe and S. W. ridge of Mabou, to Mabou bridge.

King's County.

Bishop, Adolphus.	Grand Pré.	King's county.
Eaton, E. B.	Canning.	"
McIntyre, W.	Aylesford.	"
Reid, Reuben F.	Wolfville.	"

Lunenburg County.

Morris, Jno. B.	Bridgewater	Lunenburg county.
Webber, John A.	Chester.	"

Pictou County.

Kitchin, James.	River John	Western division Pictou Co., comprising coast, waters from Colchester Co., line to Cole's Reef, Pictou Hr. and streams flowing into viz., River John and tributaries, Toney River, and Big and Little Cariboo Rivers.
McDonald, Alexdr. J.	Bailey's Brook ...	Pictou County.
Pritchard, A. O.	New Glasgow	Pictou Harbour, Pictou Island, East, West, and Middle Rivers, Pictou Co.

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List of Fishery Overseers in the Dominion of Canada, &c.—*Continued.*NOVA SCOTIA—*Concluded.**Queen's County.*

Name of Overseer.	P. O. Address.	Extent of Jurisdiction.
Bain, J. L.	Liverpool	Queen's county.
Fitzgerald, John.....	Mill Village	"

Richmond County.

Brymer, Arthur.	Lower L'Ardoise....	No. 3—Eastern division that portion of sea coast, lakes and inland waters lying east of St. Peter's Canal.
Boyle, Dugald R.....	West Arichat.	Coast and inland waters of Isles Madam including southerly half of waters of Lennox Passage.
Morrison, Archd.	River Bourgeois....	Richmond County.

Shelburne County.

E. S. Goudey.....	Barrington Passage..	From and including Clydes River to Yarmouth Co. line.
George K. Hines.	Shelburne	Shelburne County.

Victoria County.

Campbell, S. C., of Marine Agent at.	Halifax	St. Paul's Island.
Gillis, Duncan.....	Baddeck.	Victoria County.
Moffatt, W. P.	Cape North.....	Cape North, Bay St. Lawrence to county line at Meat Cove.
Montgomery, D. P.	Neils Harbour	Neils Harbour including Green Cove and New Haven.
Morrison, Alexdr.	Wreck Cove	Englishtown north to Smoky Cape at south Ingonish.
McDonald, Murdo	Big Bras d'Or.	District Tatle, Big Bras d'Or north to Englishtown.
McLean, Angus.....	Ingonish.....	North and south Ingonish, including Ingonish Island.
McRea, Charles.....	Brook Middle River.	Victoria County.

Yarmouth County.

Hartfield, A. M.	Arcadia	Yarmouth county.
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NEW BRUNSWICK.

Albert County.

Dowling, C. S.	Alma.....	County of Albert.
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Charlotte County.

Billings, Robert....	St. Andrews.....	Waters in vicinity of St. Andrews, extending from Owen Head to Oak Bay
Fraser, W.A.....	Woodward's Cove, Grand Manan. ..	Island of Grand Manan, and waters surrounding the same.
Savage, Charles	Campobello	District of Campobello, and the west Isles, Charlotte Co.
Todd, Frank.	St. Stephen.....	County of Charlotte.

SESSIONAL PAPER No. 22

LIST of Fishery Overseers in the Dominion of Canada, &c.—*Continued.*NEW BRUNSWICK—*Continued.**Gloucester County.*

Name.	Address.	Extent of Jurisdiction.
Canty, Thomas	Bathurst	Gloucester county.
Doucet, Jerome E.	Elm Tree	"
Robichaud, Wm. C.	Inkerman.	"

Kent County.

Hannah, Wm. F.	Richibucto	County of Kent.
LeBlanc, O. J. O.	Buctouche	Coast line and inland waters at the parishes of Wellington and St. Mary's.
Leger, Louis L.	Cocagne	Parish of Dundas, Kent County.

Northumberland County.

Abbott, Lemuel	Chatham	Both shores of Miramichi River, from Point Au Quart on south to Oak Point on north, to junction with N. W. S. W. Miramichi Rivers, with all islands therein, and streams emptying into.
Smith, B. W.	Hardwicke	County of Northumberland.

Queen's County.

Belyea, J. P.	Gagetown	County of Queen's.
Hetherington, I. F.	Johnston	"

Restigouche County.

McLean, Donald	Charlo	Baie des Chaleurs, and tributaries from Belledune to Dalhousie.
Miller, George	Dalhousie	Restigouche River and its tributaries in the Counties of Restigouche and Victoria.

Sunbury County.

McLean, Cecil F.	Burton	St. John River, from Indiantown, Sunbury County to the County line of York.
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St. John County.

Belyea, J. F.	58 Middle Street, St. John	County of St. John.
Cochrane, Jno	I.C.R.Stat., St. John	City of St. John and vicinity.

Victoria County.

LeClair, Joseph	Grand Falls.	County of Victoria.
Gagnon, L. A.	Edmundston	Madawaska District.

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LIST of Fishery Overseers in the Dominion of Canada, &c.—*Continued.*NEW BRUNSWICK—*Concluded.**Westmorland County.*

Name.	Address.	Extent of Jurisdiction.
Arsenault, Thos. V.....	Barachois.....	Coastal and inland waters of parish of Shediac and portion of Botsford parish, north of Big Shemogui Hr., and road from same to near Bristol corner, past Bristol corner and Lowthers to parish at Sackville with jurisdiction in parishes of Moncton and Salisbury.
Melanson, Ambroise	Pré-d'en-haut.	Parish of Dorchester including Petitcodiac River.
Copp, George E.....	Baie Verte.....	Part of Botsford Parish, County of Westmorland.
Prescott, Joseph.....	Baie Verte.....	Parishes of Westmorland and Sackville.

York County.

McKay, James D.....	Fredericton.. ..	County of York.
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PRINCE EDWARD ISLAND.

King's County.

McCormac, J. A.....	Souris	County of King's.
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Prince County.

Davison, John.....	Bedeque	County of Prince.
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Queen's County.

Hobkirk, W. C.....	Charlottetown	Province of Prince Edward Island.
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PROVINCE OF QUEBEC.

Gaspé County.

Veit, Fred.	Gaspé Basin.....	That portion of the province south of the St. Lawrence to and including County of Bellechasse, but specially the Counties of Bonaventure and Gaspé.
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Magdalen Islands.

Arsenault, Azade.....	Grindstone Island..	Magdalen Islands.
Chevrier, J. A.....	Amherst, Magdalen Island.	That part of Magdalen Islands comprising Entry, Amherst and Grindstone Islands, also Harbour Basque lagoons
Theriac, Bruno.....	House Harbour, Magdalen Island.	That part of the Islands including House Harbour, Grosse Isle, Grand Entry and bays and Bryon Island.

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LIST of Fishery Overseers in the Dominion of Canada, &c.—*Continued.*PROVINCE OF QUEBEC—*Concluded.**Saguenay County—North Shore.*

Name of Overseer.	P. O. Address.	Extent of Jurisdiction.
Cabot, George E.	Fox Bay, Anticosti Island.	The Island of Anticosti and adjacent waters.
Blais, Alex.	(Winter address) Berthier en bas. (Summer address) Long Pt. Bradore, <i>via</i> Newfoundland.	North shore, from Blancs Sablons to Chicatica, (Bonne Esperance District).
La Couvie, John.	(Winter address) Lobster Cove, Gaspé, (Summer address) Cr. Com'dr of <i>La Canadienne</i> .	North shore, from Chicatica to Cape Whittle, (St. Augustin District).
Cormier, N. Israel.	(Winter address) Esquimaux Point, (Summer) Romaine <i>via</i> Natashquan.	North shore, from Cape Whittle to Natashquan Point, (Romaine District).
Joncas, Richard.	Natashquan.	North shore, including Natashquan to Ste. Geneviève, (Natashquan District).
LeBlanc, Eusebe.	Esquimaux Point.	North shore, including Ste. Geneviève to Pigou, (Mingan District).
Migneault, Theotime.	(Winter address) 258 Rue du Roi, Quebec (Summer) Moisie.	North shore, including Pigou to Jambons, (Moisie District).
Comeau, Nap. A.	Godbout.	North shore, including Jambons to Tadoussac, (Godbout District).

The following six names are merely Bounty Officers, exercising no other jurisdiction *re* fishery matters.

Forest, George.	Bonaventure River.	Bonaventure County, from Maguasha to and including Paspébiac.
Chapados, F. X.	Gascons.	Bonaventure Co., from Paspébiac to Gaspé Co.
Keays, John.	Little Pabos.	Gaspé County, from county line eastward to but not including Barachois, Malbay.
Carter, A. T.	Gaspé Basin.	Gaspé County, from Barachois, Malbay to Fame Point, both included.
Letourneau, Louis.	Mont Louis.	Gaspé County, from Fame Point to and including Claude River.
Verreault, Louis.	Petits Mechins.	Rimouski County.

MANITOBA.

McPherson, A. J.	Dauphin, Man.	Lakes Winnipegosis and Manitoba.
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SASKATCHEWAN.

McKay, Henry.	Cedar Lake.	Waters between district of Prince Albert on west and Grand Rapids on Great Saskatchewan River on east, N. W. Territories.
Nealson, Jno. H.	Prince Albert.	District of Prince Albert, N.W. Territories.
Silverthorn, J. W.	Lumsden.	District of Long Lake Qu'Appelle River, bounded on south by base line tp. No. 16, on north by tp. No. 30, on east by east side to range 19, and on west by west side of range 27, all west of 2nd Meridian.

ALBERTA.

Wood, Ingraham.	Pigeon Lake.	Pigeon Lake and vicinity.
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LIST of Fishery Overseers in the Dominion of Canada, &c.—*Concluded.*
BRITISH COLUMBIA.

Name of Overseer.	P. O. Address.	Extent of Jurisdiction.
Galbraith, W. M.....	81 Hillside Avenue, Victoria.	British Columbia.
Herrison, Chas.....	Masset.....	Queen Charlotte Islands.
McPhaiden, D.....	Vancouver.....	British Columbia.
Wise, James.....	New Westminster.....	Fraser River, north arm.

LIST OF OFFICERS IN CHARGE OF GOVERNMENT FISH HATCHERIES,
1905.

Name.	P. O. Address.	Province.	Rank.
Cunningham, F. H.....	Ottawa.....	Ontario.....	Superintendent Fish Culture.
Finlayson, Alexdr.....	".....	".....	Inspector.
Walker, John.....	".....	".....	Officer in charge Government Hatchery.
Armstrong, Wm.....	Newcastle.....	".....	" " "
Parker, Wm.....	Sandwich.....	".....	" " "
McCargar, J. K.....	Belleville.....	".....	" " "
Deseve, A. L.....	Magog.....	Quebec.....	" " "
Catellier, L. N.....	Tadoussac.....	".....	" " "
Lindsay, Robert.....	Gaspé basin.....	".....	" " "
Elliott, Joseph.....	St. Alexis des Mts.....	".....	" " "
Robert, Alphonse.....	Mont Tremblant.....	".....	" " "
Belknap, W. G.....	Baldwin mills.....	".....	" " "
Mowat, Alexander.....	Campbellton.....	New Brunswick.....	" " "
McCluskey, Charles.....	Grand falls.....	".....	" " "
Sheasgreen, Isaac.....	South Esk.....	".....	" " "
Savoy, Sebastien.....	Shippegan.....	".....	" " "
LeBlanc, N. S.....	Cape Bald.....	".....	" " "
Ogden, A.....	Bedford basin.....	Nova Scotia.....	" " "
Harris, W. F.....	Pictou.....	".....	" " "
Meagher, James.....	Canso.....	".....	" " "
Carmichael, A. G.....	N. E. Margaree.....	".....	" " "
Burgess, Frank.....	Windsor.....	".....	" " "
Holroyd, A. W.....	Winslow station.....	P. E. Island.....	" " "
Hooker, F. W.....	Selkirk.....	Manitoba.....	" " "
Johnson, J. A.....	New Westminster.....	British Columbia.....	" " "
Whitwell, Thomas.....	Skeena river.....	".....	" " "
Mitchell, D. S.....	Granite creek.....	".....	" " "
Robertson, Alexdr.....	Lillooet.....	".....	" " "
Robinson, Thos.....	Harrison springs.....	".....	" " "
Roxburgh, Wm.....	Rivers Inlet.....	".....	" " "
Kemp, Ernest.....	Charlottetown.....	P. E. Island.....	Oyster culture.

LIST OF CANADIAN GOVERNMENT CRUISERS AND NUMBER OF
CREWS, 1905.

O. G. V. Spain, Commander of Marine Service, Ottawa.

Name of Vessel.	Commanders.	Winter Address.	No. of Officers and Crew.
Canada.....	C. T. Knowlton, Capt.....	Parrsboro, N.S.....	73
Constance.....	George M. May, Capt.....	Quebec, P.Q.....	20
Curlew.....	J. H. Pratt, Capt.....	St. John, N.B.....	16
Falcon.....	E. B. Williams.....	Vancouver, B.C.....	5
Kestrel.....	H. Newcomb, Capt.....	Vancouver, B.C.....	22
La Canadienne.....	W. Wakehan, Comdr.....	Gaspé Basin, P.Q.....	20
Osprey.....	J. Graham, Comdr.....	Cambridge road, P.E.I.....	18
Petrel.....	W. H. Kent, Capt.....	Fredericton, N.B.....	18
Vigilant.....	E. Dunn, Capt.....	Walkerville, Ont.....	54
Total of Officers and Crews.....			246

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ANNEX A.

SCHEDULE OF LOBSTER PACKERS IN THE MARITIME PROVINCES, 1905.

PROVINCE OF NOVA SCOTIA.

DISTRICT No. 1—(CAPE BRETON ISLAND.)

Counties of Cape Breton, Inverness, Richmond and Victoria.

Cape Breton County.

Owner of Lobster Cannery.	Residence.	Location of Cannery.	Remarks.
Baker, H. E.	Sydney	Fourchu & Gabarus . .	2 canneries in county, another at Petit de Grat, Richmond Co.
<i>Baxter Bros.</i>	Brunswick, Me. . . .	Little Bras d'Or. . . .	
Burke, John.	Lingan	Lingan	
Leslie, G. A. & Co . . .	Spry bay	South head.	
Levisconte, Wm.	River Bourgeois. . . .	Alder point	
Mitchel, C. L. & Co. . .	Louisburg	Louisburg	
<i>Pickard, L., Fish Co.</i> . .	East Boston	Little Bras d'Or. . . .	
Winton Bruce	Gabarus.	Gabarus.	

Inverness County, C.B.

Abriel, Jos. A.	Broad cove marsh. . . .	Broad cove marsh. . . .	4 canneries in Cape Breton Island.
Ancoine, Fulgence . . .	Eastern harbour. . . .	Little river	
Ancoine, Thomas . . .	Belle côte	Belle côte	
Banks, H. H.	Halifax	Pleasant bay	
<i>Burham, Morrill & Co.</i> . .	Portland, Me.	Inverness, &c.	
Dawson, W. F.	Margaree harbour. . . .	Meat cove.	
Delaney, Simon.	Friar's head.	Friar's head	
Fiset, P.	Eastern harbour. . . .	Cheticamp Pt.	3 canneries in county.
<i>Forhan, H. L.</i>	Raymond, Me	Grand etang, &c. . . .	
Lawrence, W. S.	Margaree harbour. . . .	Margaree harbour. . . .	
LeBrun, George	Eastern harbour. . . .	Cheticamp	
McDonald & Gillis. . . .	Seaside	Seaside	
Reed, J. H. & Co.	Halifax	Mabou harbour	
Smith, D. A.	Inverness	Delaney's Beads	

Richmond County, C.B.

Baker, H. E.	Sydney	L'Archevêque, &c. . . .	3 canneries in county.
Duff, H. E.	Arichat.	Petit de Grat, &c. . . .	
Levisconte, Wm	River Bourgeois. . . .	River Bourgeois. . . .	
Mauger, P. R.	Cape Le Rond.	Cape LeRond.	

Victoria County, C.B.

Brewer, F. C.	Ingonish.	Middle Head	Another at St. Paul Island.
Buchanan, A. A.	Neil's Harbour.	Neil's Harbour.	
Burke, Mrs. L.	Ingonish.	Ingonish.	
Cann, Henry.	"	"	
Dauphinee, John.	"	Middle Head.	
Hines & Hawley	"	Ingonish.	
Morrison, D. L.	Wreck Cove	North Shore	
McInnis, M. J.	Breton Cove	Breton Cove	
McLeod D. B.	"	"	
McLeod Bros.	New Haven.	New Haven.	
Neville, John A.	Halifax	Sparling Brook.	
Robson, Jno. A.	Estmere	Wreck Cove.	
Williams, Thos	Neil's Harbour.	Neil's Harbour	

NOTES.—Names in italics are foreign firms doing business in Canada. In large counties the localities of canneries are given geographically, then the packers are alphabetically placed in each district and when a packer owns several canneries the number is given in the last column.

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SCHEDULE of Lobster Packers in the Maritime Provinces, 1905—*Continued.*

NOVA SCOTIA—DISTRICT No. 2.

(Counties of Antigonish, Colchester, Cumberland, Guysboro, Halifax and Pictou.)

Antigonish County.

Owner of Lobster Cannery.	Residence.	Location of Cannery.	Remarks.
<i>Burnham, Morrill & Co.</i> . . .	Portland, Me.	Antigonish.	4 canneries in this county.
<i>Portland Packing Co.</i>	"	"	2 " "

Colchester County.

Chambers, Jno. & Bros.	Sand Point	Colchester	
Myers, Jno.	River John	"	

Cumberland County.

Black, Jno. O.	Amherst Shore.	Amherst shore.	
Ogden, Charles.	"	"	
Brownell, Alfred.	Northport	Northport	
Ogden, Edgar.	"	"	
Trenholm, Job.	Port Elgin	"	
Tucker, Chas.	Northport.	Birch Point.	
Allen, Thompson	Port Howe	Port Howe	
Allen, W. H.	"	"	
Cameron & Hollis.	"	"	
Abriel, B. P.	Sheet Harbour.	Pugwash	
Chase, Ben.	Rockly.	"	
Hollis, A.	Pugwash.	"	
Elliott & Co.	Pugwash	Seaman's Point.	
Allen, G. H.	"	Gulf Shore	
Balcom & Co.	Port Dufferin.	"	
McInnis, Archd	Wallace	"	
Betts, W. C.	"	Wallace	
Kirwan, Frank.	"	"	
McDonald, Gordon	North Wallace	"	
Smith, W. C.	East	"	
Trenholm, Wm.	"	"	
Waugh, Jas. W. & Co.	Wallace Bridge.	"	
Flinn & Murphy.	"	Oak Island	
Lantz, James H.	"	Horton Bay	
McInnis, John.	" Ridge.	Beldore.	
Smith, H. W. & S.	"	Malagash.	2 canneries in vicinity.
Smith, Balcolm & Co.	West Quoddy.	Shauwert's Beach.	
Smith, Wm. & Co.	"	Malagash	3 " "
<i>Burnham Morrill & Co</i>	Portland, Me.	Saddle Id. & vicinity.	2 canneries in Co. "

Guysboro County.

Andrews, F. S. & Co.	Halifax.	Seal Harbour & vic.	2 canneries in county.
<i>Burnham, Morrill & Co.</i> . . .	Portland, Me.	Guysboro.	10 " "
Cesale, J. A.	Mulgrave	Pirate Harbour & vic.	2 " "
David, Joseph.	Port Felix.	Port Felix.	
<i>Forhan, H. L.</i>	Raymond, Me.	Canso	
Harris, W. & W. S.	Whitehead	Whitehead	
Hemlow, Jas., jr.	Liscomb	Ecum Secum	
Henley, W. Chas.	Dover	Dover	
Leslie, Geo. A. & Co.	Spry Bay.	Fox Bay.	
Mathews & Scott	Queensport.	Queensport.	
<i>Portland Packing Co.</i>	Portland, Me.	Guysboro.	4 " "
Sproule, D. & Co.	Canso	Canso	
Wells, Jno. S.	Whitehead	Dunning Pt	

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SCHEDULE of Lobster Packers in the Maritime Provinces, 1905—*Continued.*NOVA SCOTIA—DISTRICT No. 2—*Concluded.**Halifax County.*

Owner of Lobster Cannery.	Residence.	Location of Cannery.	Remarks.
Abriel, John	Pope's Harbour	Pope's Harbour	3 canneries in county.
Balcom, H. J.	Port Dufferin	Port Dufferin	
<i>Burnham, Morrill & Co.</i>	Portland, Me.	Halifax	
Christian, N. P.	Prospect	Prospect	
Dauphinee, Isaac	Tantalou	Boutilier	4 " "
Henley, W. Chas	Spry Bay	Spry Bay	
Leslie, Geo. A. & Co.	"	" & vicinity	
Neville, Jno. A.	Halifax	Terence Bay	
Sambro Canning Co.	Sambro	Sambro	(J. A. Gray, Mgr.)
Smiley & Co	Port Dufferin	Port Dufferin	
Smith, T. F. & Co	West Quoddy	West Quoddy	
Stevens, James	Owls Head	Porter's Passage	
Wheatley, Edward	Terrence Bay	Terrence Bay	

Pictou County.

Atkins, Geo. W. & Co	Pictou	Carribou Id.	5 canneries in Co.
Arbuckle, B.	Pond	Pond	
Baillie, Alexander	Toney River	Toney River	
<i>Burnham, Morrill & Co.</i>	Portland, Me.	Sober Id. & vic	
Gray, Alex.	Seafoam	Toney River	2 canneries.
Henry, Hughena M.	Pictou	Carribou Id.	
Henderson & McKenzie	Toney River	Toney River	
Logan & Murdock	Bayview	Bayview	
Mason, Chas	Pond	Lismore	2 canneries.
Mason & Miller	Lower Barney River	Pond	
Munro & McKenzie	River John	Cape John	
McClure, Wm.	Pictou	Pictou & vicinity	
McKenzie Bros	Skinner's Cove	Skinner's Cove	2 canneries.
McLeod & Stewart	High Banks, P.E.I.	Pictou Id.	
McLennan & Redmond	River John	Cape John	

NOVA SCOTIA—DISTRICT No. 3.

(Counties of Digby, Lunenburg, Queen's, Shelburne and Yarmouth.)

Digby County.

Boutilier, A. & Co.	Centreville	Centreville	2 canneries in county.
Comeau, J. Win	Comeauville	Comeauville	
Ellis, Edison	Port Maitland	Cape St. Mary & vic	
Gidney, E. A.	Mink Cove	Mink Cove	
Loomer, D. E.	Tiverton	Tiverton	2 canneries.
Morehouse, Ernest	Sandy Cove	Sandy Cove	
Outhouse, L. H.	Tiverton	Tiverton	
Saulnier, Alcide F.	Meteghan Riv.	Meteghan River	
Theriault, Moses	"	"	

Lunenburg County.

Evans, Martin	Chester	Cross Id.	2 canneries in county.
Knickle, Alex	Lunenburg	Blue Rocks	
Millet, Albert	Chester	Chester	
Millet, George	"	"	
Redden, James	"	Aspotogan	2 canneries.
Wambolt, W. H.	LaHave Island	LaHave Island	

SCHEDULE of Lobster Packers in the Maritime Provinces, 1905—*Continued.*NOVA SCOTIA—DISTRICT No. 3—*Concluded.**Queen's County.*

Owner of Lobster Cannery.	Residence.	Location of Cannery.	Remarks.
Burgess, Henry	Port Mouton.....	Port Mouton.....	
Burgess, Marshall.....	Port Joli.....	Port Joli.....	
Colp, Simon.....	Port Mouton.....	Little Port Joli..	
Cook, Walter.....	".....	Port Mouton.....	
Doggett, Angus & Wm	White Point.....	White Point.....	
Fisher, Herbert.....	Port Mouton.....	Port Mouton.....	
Hemeon, Geo. A.....	West Berlin	West Berlin.....	
Leslie, John.....	Port Mouton.....	Port Mouton.....	
Mersey Pkg. C.....	Liverpool.....	Coffin Island.....	(W. A. Hemeon, mgr.)
McDonald, Wm.....	Port Hebert.....	Port Hebert.....	
McLeod, Albert.....	Port Mouton.....	Port Mouton.....	
Neville, John A.....	Halifax.....	P. Mouton and vicinity	
Roy, Joseph.....	Port Mouton.....	Port Mouton Island..	
Sims, Otis.....	Port Joli.....	Catherine River.....	
Stewart, Herman.....	Port Mouton.....	Port Mouton.....	
Wagner, Isaac.....	Port Joli.....	Catherine River.....	

Shelburne County.

Brennen, Ezra M.....	Wood's Harbour.....	Wood's Harbour....	
Goreham Bros.....	".....	".....	
Nickerson, Colin C.....	".....	".....	
Nickerson & Mood.....	".....	Squirrel Island..	
Sears, J. F.....	".....	Wood's Harbour....	
Stoddard, P. W.....	".....	".....	
Shand, Jno. M., sr.....	Barrington Passage..	Shag Harbour.....	
Wickens, Chas.....	Shag Harbour.....	".....	
Cape Sable Pkg. Co.....	Clarke's Harbour.....	Clarke's Harbour..	(Mgr. M. A. Nickerson.)
Nickerson, F. T.....	".....	".....	
Nickerson, M. G. & Co.....	".....	".....	
Swim, A. S.....	".....	".....	
Mood, Calvin.....	Wood's Harbour.....	Baccaro.....	
Shand, Jno. M., jr.....	Bear Point.....	".....	
Stewart, E. S.....	East Sable.....	East Sable.....	
Consolidated Trading Co	Port LaTour.....	Port LaTour.....	(Mgr. Josiah Spinney.)
McLaren, F. B.....	Port Clyde.....	Port Clyde.....	
Larkin, Ephraim.....	Emerald Isle.....	Emerald Isle.....	
Bethell, John E.....	Cape Negro.....	Cape Negro.....	
Long, W. B.....	Sand Point.....	Sand Point.....	
Canada Atlantic Carg. Co.....	Lockeport.....	Lockeport.....	(Mgr. F. Payzant.)
Hardy, George.....	Sable River.....	Port Hebert.....	
Crouse, Henry.....	West Head.....	West Head.....	
McGray, Jas. C.....	Centreville.....	Centreville.....	

Yarmouth County.

Bates, George.....	Yarmouth.....	Ellenwood Island..	
Beveridge, G. R.....	Chebogue.....	Chebogue.....	
Beveridge, H. C.....	Arcadia.....	Reef Island.....	
Cann, H. B.....	Yarmouth.....	Harry Island.....	2 canneries in county.
Gray, Jas. S.....	".....	Deep Cove Island..	
Hersey, Locke.....	".....	Yarmouth Harbour..	
McKay, R. S.....	".....	Turpin Island.....	
Seeley, Wm.....	Argyle.....	Barr Island.....	
Shand, Geo. A.....	Pubnico.....	Yarmouth Co.....	4 canneries in county.
Stoneman, Arthur.....	Yarmouth.....	Calf Island Tusket ..	

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SCHEDULE of Lobster Packers in the Maritime Provinces, 1905—*Continued.*

PROVINCE OF NEW BRUNSWICK.

Charlotte County.

Owner of Lobster Cannery.	Residence.	Locality of Cannery.	Remarks.
<i>Burnham, Morrill & Co.</i>	Portland, Me.	Grand Manan.....	
<i>Connors Bros.</i>	Black's Harbour ..	Black's Harbour.....	
<i>Holmes, E. A.</i>	Eastport, Me.	Welshpool.....	
<i>Ingersoll, J.</i>	Seal Cove.....	Seal Cove.....	

Gloucester County.

<i>Curry, John</i>	Belledune.....	Belledune.....	
<i>Fournier, Irène</i>	Green Point.....	Green Point.....	
<i>Loggie, A. & R.</i>	Loggieville.....	".....	
<i>Desbrisay, Sydney</i>	Petit Rocher.....	Petit Rocher.....	
<i>Langis, J. A.</i>	".....	".....	
<i>Melanson, Peter L.</i>	".....	".....	
<i>McLean, W. H.</i>	Bathurst.....	Vicinity Bathurst.....	
<i>Comeau, Chas. B.</i>	New Bandon.....	Janeville.....	
<i>Comeau, F. J.</i>	".....	Stonehaven.....	
<i>Dempsey, E. A.</i>	Stonehaven.....	Grande Anse.....	
<i>Poirier, Joseph</i>	Grande Anse.....	".....	
<i>Baldwin, Nicholas</i>	Blue Cove.....	Blue Cove.....	
<i>Hoegg & Co., D. W.</i>	Fredericton.....	Mizenette.....	
<i>Caron, Marcel</i>	Caraquet.....	Caraquet.....	
<i>Doucet, J. B.</i>	".....	".....	
<i>Doucet, Jos. J.</i>	".....	".....	
<i>Duguay, J. H.</i>	".....	".....	
<i>Hubbard, C.</i>	".....	".....	2 canneries in county.
<i>Leger & Landry</i>	".....	".....	
<i>Sewell, Bernard</i>	".....	".....	
<i>Young, Robt. (estate).</i>	".....	".....	Have 2 canneries in vicinity.
<i>Young, R. H. L.</i>	".....	".....	
<i>Brideau, Théophile</i>	Shippegan Island.....	Shippegan.....	
<i>Chiasson, George</i>	Ste. Marie.....	".....	
<i>Chiasson, M.</i>	Shippegan Island.....	".....	
<i>Degrasse, E.</i>	Shippegan.....	".....	
<i>Duguay, Maurice</i>	Ste. Marie.....	".....	
<i>Loggie, W. S. & Co.</i>	Chatham.....	".....	13 canneries in this county.
<i>Luce, Philip</i>	Little Shippegan.....	".....	
<i>McIntosh, T. R.</i>	Shippegan.....	".....	
<i>Robichaud, Edmond</i>	Ste. Marie.....	".....	
<i>Robichaud, Eugène</i>	Lameque.....	".....	
<i>Robichaud, Philorome</i>	Ste. Marie.....	".....	
<i>Savoy, Wm. B.</i>	".....	".....	
<i>Wilson, Alex. F.</i>	Little Shippegan.....	".....	
<i>Wilson, Martin</i>	".....	".....	
<i>Chiasson, Jos. J.</i>	Little Lameque.....	Lameque.....	
<i>Poulin, Pierre</i>	Lameque.....	".....	
<i>Blakley, John H.</i>	Miscou Harbour.....	Miscou.....	
<i>Campbell, Wm.</i>	Little Shippegan.....	".....	
<i>McGregor, Simon</i>	Dalhousie.....	".....	
<i>Snowball, J. B. & Co.</i>	Chatham.....	".....	3 canneries in this county.
<i>Ward, John A.</i>	Miscou Harbour.....	".....	
<i>Windsor, E. A.</i>	".....	".....	
<i>Windsor, J. W.</i>	Montreal.....	".....	
<i>Windsor, George</i>	Iceland River.....	Iceland River.....	
<i>Breau, Samuel</i>	Tracadie.....	Tracadie.....	
<i>Ferguson, Wm.</i>	Ferguson's Point.....	".....	

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SCHEDULE of Lobster Packers in the Maritime Provinces, 1905—*Continued.*PROVINCE OF NEW BRUNSWICK—*Continued.**Kent County.*

Owner of Lobster Cannery.	Residence.	Locality of Cannery.	Remarks.
Babineau, J. & M.	Lower Village	Richibucto	
Loggie, A. & R.	Loggieville	"	
Loggie, W. S. & Co	Chatham	"	5 canneries in this county.
O'Leary, R.	Richibucto	"	3 " "
Richard, Peter F.	" Cape	"	
Babin, James	"	Blackland Gully	
Robichaud, Selime	"	"	
Allain, Syris	St. Edouard de Kent	Chockpish	
Allain, Urbain & Sylvain	"	"	
Caissie, Clement J.	Ste. Anne	"	
Jaillet, Louis T.	St. Edouard de Kent	"	
Maillet, Cléotus	"	"	
LeBlanc, Calixte J.	Ste. Anne	"	
LeBlanc, Meleme F.	St. Edouard	"	
LeBlanc, Ruben G.	Ste. Anne	"	
Nowlan, Jno. M.	"	"	
Richard, Damien A.	"	"	
Richard, Sylvain A.	"	"	
Robichaud, Placide	St. Edouard	"	
Jaillet, C. L.	"	Buctouche Bay	
Jaillet, David	"	"	
Jaillet, Eustache L.	"	"	
Jaillet, Francis L.	"	"	
Jaillet, Joseph A.	"	"	
Jaillet, Jos. L.	"	"	
LeBlanc, Calixte B.	"	"	
Breau, W. R.	Cocagne	Dixon's Point	
Crossman, Jos.	St. Thomas	"	
Goguen, P. R.	Cocagne	"	
Bilodeau, Michel	"	Cocagne	2 canneries in this county.
Després, Eugène	"	"	
Dowling, Albert	" Cape	"	
Goguen, Lucas T.	"	"	
Leger, D. H.	Grandigue	Caissie Cape	
Melanson, O. M. & Co.	Shediac	Cocagne	

Northumberland County.

Loggie, W. S. Co	Chatham		2 canneries in county.
Savoy, James G.	"	Lower Neguac	
Stewart, M. S.	Lower Neguac	"	
Morison, Alfred J.	Burnt Church	Church Point	
Sewell, John	"	"	
Loggie, A. & R.	Loggieville	Escuminac Point	

Restigouche County.

Hogg, D. W. Co	Fredericton	New Mills	
Windsor, J. W.	New Mills	"	

Westmorland County.

Cormier, Abel C.	Robichaud	Robichaud	
Robichaud, Frank	"	"	
Robichaud, Théotime	"	"	

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SCHEDULE of Lobster Packers in the Maritime Provinces, 1935—*Continued.*PROVINCE OF NEW BRUNSWICK—*Concluded.**Westmorland County—Concluded.*

Owner of Lobster Cannery.	Residence.	Location of Cannery.	Remarks.
Doiron, Hippolyte.	Dupuis' Corner.	Dupuis' Corner.	
Landry, Philéas M.	"	"	
Leblanc & Landry	"	"	
LeBlanc, A. E.	"	"	
LeBlanc, Gaspard.	"	"	
Arsenault, Pat. J.	Cape Bald	Cape Bald	
Bourque, Philip Joseph.	"	"	
Brine, Beloni.	"	"	
Cormier, Dosithe M.	"	"	
Cormier, Narcisse L.	"	"	
Duguay, Albin.	"	"	
Duguay, Roger.	"	"	
LeBlanc, N.	"	"	
Leger, Pacifique.	"	"	
Noiles, David.	"	"	
Vautour, Donat.	"	"	
Loggie, W. S. & Co.	Chatham	Little Cape	
Melanson, O. M. & Co.	Shediac.	"	
Poirier, O.	"	"	
Fagan, Abel.	Leger Brook	Leger Brook	
Fagan, Philip.	"	"	
Leger & Bourque.	"	"	
Cornier, Julien M.	Shemogui.	Shemogui.	
Allen, Harper.	Bayfield	Peacock Point.	
Allen, Silver.	Pugwash, N. S.	Jourmain Island.	
Harper, Frank.	Sackville	"	
Allen, Hampton G.	Cape Tormentine.	Cape Tormentine.	
Allen, Wm. J.	"	"	
Walker, R. H.	"	"	
Portland Packing Co.	Portland, Me.	"	4 canneries in county.
Allen, Richard L.	Bayfield	Bayfield.	
Allen, G. Wilfred.	"	"	
Allen, Wilben J.	North Shore.	"	
Polley, Harvey	Bayfield.	"	
Polley, Wm. B.	"	"	
Trenholm, Wm. S.	"	"	
Dobson, G. W.	Cape Spear.	Cape Spear.	
Dobson, Smith	"	"	
Magee, Fred	Port Elgin.	"	3 canneries in county.
Trenholm, Millege	Cape Spear.	"	
Allen, Jeremiah.	Timber River	Timber River.	
Taylor, Clarence.	Emigrant Road	"	
Trenholm, Judson	Timber River.	"	
Trenholm, Sheperd.	"	"	
Allen, Gailey.	Upper Cape	Upper Cape.	
Allen, Inkerman.	"	"	
Allen, W. Lord.	"	"	
Read, Ephraim	Reads.	Reads.	

PRINCE EDWARD ISLAND.

Prince County.

Bell, Wm. & Ephraim.	Cape Traverse.	Cape Traverse.
Campbell, Montague.	"	"
Howatt, Thomas	"	"
Howatt, Wm. E.	"	"
McPherson, Edward	"	"
Griffin, Augustine.	West Point.	West Point.
Livingstone, Andrew.	Glenwood	"
Stewart, Jno. & Walter.	West Point.	"
Arsenault, J. G.	Cape Egnont.	Cape Egnont.

SCHEDULE of Lobster Packers in the Maritime Provinces, 1905—*Continued.*PRINCE EDWARD ISLAND—*Continued.**Prince County—Continued.*

Owner of Lobster Cannery.	Residence.	Location of Cannery.	Remarks.
Gallant, Jno. Peter.....	Cape Egmont.....	Cape Egmont.....	
Morris, C. B.....	Summerside.....	".....	
McNally, Jno. J.....	Abram's Village.....	".....	
Poirier, Bruno.....	Cape Egmont.....	".....	
Arsenault, P. M.....	St. Chrysostome.....	Egmont Bay.....	2 canneries in Co.
Arsenault, Silvain S.....	Abram's Village.....	".....	
Gaudet, Clovis.....	Egmont Bay.....	".....	
McNally, James.....	Lot 15.....	".....	
Arsenault, Jos. A.....	Mount Carmel.....	Mount Carmel.....	
Gallant, Jno. J.....	".....	".....	
Perry, Louis R.....	".....	".....	
Richards, Peter L.....	".....	".....	
Gallant, S. T.....	Pineauville.....	Tignish.....	
Lynch, Michl.....	Tignish.....	".....	
Myrick, J. H. & Co.....	".....	".....	
Perry, F. P.....	".....	".....	
Agnew, John.....	Alberton.....	North Cape.....	
Bennet, Chas.....	".....	".....	
Mathews, Archd.....	".....	".....	
Lewis, Henry.....	".....	Alberton.....	
Skerry, John.....	".....	".....	
Wells Bros.....	".....	".....	
Wells, Wm.....	".....	".....	
Allen, B. C.....	Muddy Creek.....	Fifteen Point.....	
Allen, S. T.....	Chelton.....	Chelton.....	
Arsenault, Ernest.....	East Bedford.....	Squirrel Creek.....	
Arsenault, J. H. H.....	Higgins Road.....	Rocky Point.....	
Bell, Robt.....	Alberton.....	Skinner's Pond.....	
Berouard, Joseph.....	Nail Pond.....	Nail Pond.....	
Chiasson, Joseph.....	".....	".....	
Clark Bros.....	Alberton.....	Goose Hr.....	
Collet, J. A.....	Summerside.....	Chelton.....	
Crossman, George.....	Grand River.....	Grand River.....	
Crossman, Hubert.....	Central Lot 16.....	Lot 16.....	
Dalton, Michl.....	Burton Lot 17.....	Lot 7.....	
DesRoches, Gilbert.....	Miscouche.....	Ives Point.....	
Doucet, Jno. M.....	Waterford.....	Waterford.....	
Doucet, Joseph.....	".....	".....	
Dunnville, Geo.....	West Cape.....	West Cape.....	
Gallant, Pascal.....	Summerside.....	Sea Cow Head.....	
Guignon, Moses.....	Cape Traverse.....	Bell's Head.....	
Hardy, Ernest.....	Freeland.....	Little Channel.....	
Hierlihey, J. & A.....	Milburn Lot 8.....	Indian Point.....	
Howatt, Calvin.....	Tryon.....	Tryon.....	
Howatt, Michl.....	Brae Lot 9.....	Lot 9.....	
Larkin, A. F.....	Tignish.....	Frog Pond.....	2 canneries in Co.
Leard, W. A.....	Bedeque.....	Sea Cow Head.....	2 " "
Lovitt, Wm.....	Alberton.....	North Cape.....	
Mathews, Archd.....	".....	".....	
Migneault, Royer.....	Mount Carmel.....	Fifteen Point.....	
Miller & McLeod.....	Lot 16.....	Lot 16.....	
Millegan, Douglas.....	Poplar Grove.....	(Near) Poplar Grove.....	
Mountain, David.....	Malpeque.....	King Street.....	
McCaul, A. A.....	Ellerslie.....	Bedford.....	
McIntyre, Augustine.....	Lot 14.....	Grand River.....	
McIsaac, George.....	Glenwood.....	Livingston.....	
McIsaac, Peter.....	Brae Lot 9.....	Brae Lot 9.....	
McLean, Roddick.....	".....	".....	
McNeil, M. A.....	Alberton.....	Freeland Lot 11.....	
McNutt, Peter.....	Malpeque.....	Darnley.....	
McPhee, Jas. H.....	Southwest Lot 16.....	Port Hill Lot 14.....	
McWilliams, George.....	Cape Traverse.....	Bell's Head.....	
Pineau, Chas.....	Miminegash.....	Elbbs Fleet.....	
Portland Packing Co.....	Portland, Me.....	Waterford.....	3 canneries in Co.

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SCHEDULE of Lobster Packers in the Maritime Provinces, 1905—*Continued.*PRINCE EDWARD ISLAND—*Continued**Prince County—Concluded.*

Owner of Cannery.	Residence.	Location of Cannery.	Remarks.
Riley & McPherson	Haliburton Lot 7.	Cape Wolfe.	
Scott, Theodore K.	Port Hill.	Bedford.	
Shafer, Frank.	Carleton.	Carleton.	
Sharp, Sheeton	East Bedford.	Little Channel.	
Simpson, Judson.	Belmont.	Lot 16.	
Simmons, Fred	Wilmot.	Curtain Id.	
Skerry, Wm.	Alberton.	Lot 11.	
Stewart, Dugald	Malpeque.	King Street.	
Trenholm, Geo. R.	Muddy Creek.	Ives Point.	
Thompson, D. J.	Campbelton.	Campbelton.	
Veniot, Chas.	Sea Cow Pt.	Sea Cow Point.	
Webb, C. R.	Malpeque.	Malpeque.	
Williams, Geo. F.	Poplar Grove.	Lot 11.	
Woodman Bros.	Alberton.	Kildare Cape S.	2 canneries in county.

Queen's County.

Beaton, M. R.	Flat River.	Flat River.	
Gillis, John.	"	"	
McKenzie, H. D.	"	"	
McRae, R. & D.	"	"	
<i>Portland Packing Co.</i>	Portland, Me.	" &c.	3 canneries in county.
Riley, J. M.	Flat River.	"	
Finlayson, Wm.	Point Prim.	Point Prim.	
Hewitt Bros.	Lower Montague.	"	
Jenkins, Wm.	Point Prim.	"	
Morrison, Neil.	"	"	
McDonald, Alexander.	"	"	
McKinnon, John	"	"	
Cantello & Hubley.	Pinette.	Pinette.	
Doherty, A. W.	"	"	
Hubley, A. & R.	"	"	
McDonald, J. & J.	"	"	
Hustun, H.	St. Peters Island.	St. Peters Island.	
Lund Bros.	"	"	
Taylor Bros.	"	"	
Taylor, D. N.	"	"	
Adams & Duggan.	Seaview.	Seaview.	
Adams, Wm.	"	"	
McKay, John D.	"	"	
Sudbury, Chas.	"	"	
Mullins, Wm.	De Sable	Rustico	
Peters, Nectaire	Rustico	"	
Pineau, Simon.	"	"	
Compton, B. & Co.	Belle River.	Belle River.	
Jardine, Christophe.	"	"	
McLeod, Angus.	"	"	
Smith, Marshal.	"	"	
Aitken, Ben.	Aitken Ferry.	Gaspereau	
Clarke, S. C.	Mount Stewart.	Blooming Point.	2 canneries in county.
Cannon, F. W.	St. Eleonore	New London.	
Cameron, D. J.	De Sable	"	
Cousins, Jno.	Park Corner.	Park Corner	
Dean, Wm. L.	Charlottetown.	Canoe Cove.	
Dixon & Keenan.	Wood Island.	Wood Island.	
Farguharson, J. A.	Charlottetown.	Canoe Pass.	
Feehan Bros.	Mount Stewart.	French Village.	
Gallant, Moses.	Cavendish.	Cavendish.	
Hennebury, O.	Argyle Shore.	Argyle Shore.	
Howatt, Abner.	Crapaud.	Crapaud.	
Jardine, W. S.	Crown Point.	Crown Point.	
Judson, J. H.	Alexandria.	Governor's Island.	

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SCHEDULE of Lobster Packers in the Maritime Provinces, 1905—*Continued.*PRINCE EDWARD ISLAND—*Concluded.**Queen's County.*

Owner of Cannery.	Residence.	Location of Cannery.	Remarks.
Knox, J. P.	Crapaud	Crapaud	
Laird Bros.	Cavendish	Cavendish	
Longworth, Geo. & Co.	Charlottetown	Cove Head Harbour	
Miller, Chas.	Crapaud	Crapaud	
Moore, Wm.	Wood Island	Wood Island	
McGregor, Peter	"	"	
McIntyre, Jas.	French Village	French Village	
McLeod, N. & A.	French River	Park Corner	
McRae Bros.	Canoe Cove	Canoe Cove	
Stewart, Jno.	French River	New London Harbour	
Villet, Wm.	De Sable	De Sable	

King's County.

Clow, Benj.	Murray Harbour	Murray Harbour N.	
Clow & Dunn	"	"	
Clow & Condon	"	"	
Johnstone, Neil B.	Peters Road	"	
Johnston, Saml.	"	"	
Miller & McHerron	Murray Harbour N.	"	
Murray Hr. N. Pkg. Co.	"	"	(Mgr. Adam Renolds.)
McLeeman, D. & Son.	"	"	
Aitken, Benj.	Gaspereau	Gaspereau	
Graham, Abraham	"	"	
Graham, McLaren & Co.	"	"	
Heriott Bros.	Aitken Ferry	"	
Lewis, R. J.	Cable Head	Cable Head	
O'Hanley, Alfred	Portage Road	"	
Rathray, Jno. H.	St. Peters Road	"	
Toombs, Geo. H.	Charlottetown	"	
Bull, Wm.	White Sand	White Sand	
Cogswell & Eaton	Georgetown	Burn Point	
Cox, R. N.	Morrell	Greenwich	2 canneries in county.
Cummings & McIsaac	Goose River	Goose River	
Dingwell, Reginald	Bay Fortune	Bay Fortune	
Hughes & Ryan	Souris	Priest Pond	
Jenkins, W. W.	Georgetown	Launching Point	
Jordon, E. M.	Murray Harbour N.	Beach Point	
Kickham, Thos.	Souris	Souris	
Leslie, D. C.	Charwood	Campbell's Cove	
Lamont, Wm.	Eldon	Cape Bear	
Longworth, H. W.	Charlottetown	Hay River	
Morson & Co.	Cardigan	Launching Point	
McDonald, A. A. Bros.	Georgetown	Annandale, &c.	3 canneries in county.
McDonald, Jos. B.	Little Pond	Durrell Cape	
McFarland, E.	Annandale	Cape Spry	
McEachern Bros.	Hermanville	Black Bush	
McEwan, H. D.	Morrell	St. Peters Harbour	
McIsaac, Angus	Hermanville	Black Bush	
McLean, Mathew	Souris	Bayfield	2 canneries in county.
McPhee, J. W.	Georgetown	Boughton Island	
McPhee & Manuel	"	Panmure Island	
O'Hanley, Daniel	Cable Head	Cow River	
Peters, Fred	Rollo Bay	Rollo Bay	
Pope, J. & A.	Chepston	Chepston	
Prowse & Sons	Murray Harbour N.	Indian Island	2 canneries in county.
Red Point Packing Co.	Red Point	Red Point	(Wm. McLellan, Mgr.)
Sterns, C. H. S.	Souris	East Point	
Stewart, E. L.	"	Souris	
Sutherland Bros.	Cable Head	Belfast	
Sutherland, Jno. P.	Goose River	Hollow River	

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SCHEDULE of Lobster Packers in the Maritime Provinces, 1905—*Continued.*

PROVINCE OF QUEBEC.

Beauport County.

Owner of Cannery.	Residence.	Location of Cannery.	Remarks.
Alexander, F. W.	Shawbridge	L'anse à la barbe (1)	
"	"	Pt. Daniel West (1)	
Forhan, H. L.	Raymond, Me.	Shégawake (2)	4 canneries in county.
Hogg, D. W. & Co.	Fredericton, N.B.	Shégawake	4 canneries in county.
Leclerc, Bernard	Carleton	Belle Anse, etc.	
Herb, Journeau.	Port Daniel West.	Carleton.	
		Port Daniel West.	

Gaspé County (proper).

Duguay, David	Little Pabos.	Little Pabos	
Hurley, P. D.	"	"	
LeGouffe, Joseph	"	"	
Collas & Co., Robin C.	Perce	Perce	
"	"	Neport Point	2 canneries in county.
White & Hipson, P. J.	Bois Brulé	Bois Brulé	
White, P. J. & Bros.	"	"	
Mabee Bros	Corner of the beach.	Corner of the beach.	
Loggie, A. & R.	Loggrieville, N.B.	Little River West.	4 canneries in county.
Maher, Patrick.	Seal Cove	Seal Cove.	
Windsor, J. W.	Montreal	Newport, &c.	

Magdalen Island (Gaspé County).

Cormier, James.	Cabin Cove	West Point	3 canneries.
Savage, J. P.	Amherst	"	
Arsenault, A. C.	House Harbour.	Grand Entry	
		House Harbour	
Chenelle, John.	Grand Entry	Shag Island	
Cormier, Vital	"	Grand Entry	
Cyr, André	"	"	
Cyr, Grégoire	"	"	
Cox, R. N.	Morrell, P.E.I.	"	
Leslie, Wm. & Co.	Grindstone	"	
Lavade & Turbide	Amherst.	"	
McPhail, André	Grand Entry	"	
McPhail, William.	"	"	
Portland Packing Co.	Portland, Me	"	
Boudreault, Daniel.	House Harbour.	Dune du Sud	
Chevarie, François.	"	"	
Mason, Thos. A.	"	"	
Delaney Bros	"	Bryon Island	
Dingwell, Wm	Bryon Island	"	
Clarke, James A.	Old Harvy.	Old Harvy.	
Clarke, Boston	Grand Entry	"	2 canneries.
Dunn, Edward	"	"	
Portland Packing Co.	Portland, Me	"	1 Old Harvy, 1 Old Entry.
Best, Robert.	Grosse Isle.	East Point	
Boudreault, Firmin.	House Harbour.	Point Basse.	
Delany, R. & Son.	"	South Beach	
McLean & Co., Danny.	Entry Island.	Entry Island.	
Borne, Ant.	Amherst Island.	Etang du Nord.	
Chasson, Edward.	Etang du Nord.	"	
Geddes & Leslie.	"	"	
"	"	North Cape	2 canneries.

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SCHEDULE of Lobster Packers in the Maritime Provinces—*Concluded.*PROVINCE OF QUEBEC—*Concluded.**Magdalen Island—Concluded.*

Owner of Cannery.	Residence.	Location of Cannery.	Remarks.
Arsenau, Azade.....	La Vernière.....	Hospital.....	
Lapierre, Samuel....	Etang du Nord.....	Hospital (Cape).	
Miousse, Chas. & Co.....	Barachois.....	Hospital.....	
Noel, Eli.....	".....	".....	
Clarke, Albert.....	Grosse Isle.....	Grosse Isle.....	
Clarke, John L.....	".....	".....	
Keating, Wm.....	".....	".....	
McPhail, Howard.....	".....	".....	
McLean, Albert.....	".....	".....	
McKay, Charles.....	".....	".....	
Prest, Levi.....	".....	".....	
Quinn, William.....	".....	".....	
Bourgeois, Théophile.....	La Vernière.....	Red Cape.....	

(1) NOTE.—There are a few more canneries on the north shore of Gulf of St. Lawrence and one at Anticosti (eight or ten in all).

